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APPLYING CLIL IN REAL-LIFE CONTEXTS THROUGH SERVICE-LEARNING

La aplicación del CLIL en contextos reales a través del Aprendizaje-Servicio

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RESUMEN

El AICLE es el enfoque por excelencia empleado en los colegios bilingües españoles para la enseñanza integrada de lengua extranjera y contenido curricular. Pese a su intención de promover el desarrollo de ciudadanos competentes en materia lingüística, siguiendo las directrices europeas, este objetivo no es logrado debido a la ausencia de oportunidades para usar la lengua extranjera en contextos reales. Si bien es cierto que este enfoque cuenta con numerosos beneficios, estos no son totalmente explotados debido a la falta de metodologías que describan cómo sus principios deben ser puestos en práctica. Por este motivo, el AICLE se ve beneficiado al integrarse en la metodología Aprendizaje-Servicio, pues los estudiantes aprenden de manera significativa al usar la lengua extranjera para resolver problemas comunitarios mediante la aplicación práctica de contenidos académicos. A su vez, durante este proceso, desarrollan competencias y valores, a través de la colaboración con sus compañeros y con los miembros de la comunidad. Finalmente, se incluye en este trabajo un proyecto integrado de AICLE y ApS que ofrece pautas sobre su aplicación práctica en las aulas bilingües de Educación Primaria.

ABSTRACT

CLIL is the approach by excellence used in Spanish bilingual schools for the integrated teaching of foreign language and curricular content. Despite its intention to promote the development of competent multilingual citizens, following European guidelines, this objective is not achieved due to the absence of opportunities to use the target language in real-life contexts. Although this approach has many benefits, these are not fully exploited due to the lack of methodologies that describe how its principles are to be put into practice. For this reason, CLIL benefits from being integrated into the Service-Learning methodology, as students learn in a meaningful way by using the foreign language to solve community problems through the practical application of academic content. In turn, during this process, they develop competences and values through collaboration with their peers and community members. Finally, this work includes an integrated CLIL and SL project which offers guidelines on its practical application in bilingual classrooms in primary education.

PALABRAS CLAVE

Competencia plurilingüe, aprendizaje significativo, enseñanza del inglés, metodología activa, uso real de la lengua.

KEY WORDS

Plurilingual competence, meaningful learning, English teaching, active methodology, real use of the language.

1. INTRODUCTION

Globalisation, evidenced by increased international interactions at commercial, political and cultural levels, has significantly raised dialogue between countries. This has triggered a demand for individuals who are proficient in several languages (Vallance, 2015). Consequently, European education policies have placed special emphasis on foreign language learning to ensure effective international communication and prepare citizens to function in the global marketplace. An example of these efforts is the Action Plan for Language Learning designed by the European Commission in 2002, which posits the need for European citizens to be proficient in their mother tongue plus two foreign languages (Council of the European Union, 2002). In order to meet this need, the CLIL (Content and Language Integrated Learning) approach, which consists of teaching curricular content through a foreign language, was introduced in the European educational context in the 1990s (Coyle et al., 2010; Bower et al., 2020). It was presented as an interesting educational option since, by integrating content and foreign language, simultaneous learning of both could be achieved (Baker & Wright, 2017). However, despite the fact that 40.9% of bilingual teaching is already carried out through the CLIL approach in Spain (La Moncloa, 2023), the results obtained in external tests such as PISA continue to be below average (OECD, 2023). This could be attributed to the fact that because the approach is so general and broad and there is no concrete methodology, it is open to numerous interpretations, which may result in hindering its theoretical and practical usefulness when implemented (Cenoz et al., 2013). Therefore, could this approach be incorporated into an existing methodological framework to ensure the proper application of CLIL?

On the other hand, the author of this undergraduate dissertation has witnessed during her internships in bilingual schools in the Community of Madrid that the application of the CLIL approach tends not provide opportunities for learners to use the foreign language in real contexts. This, together with the predominant use of textbooks designed for non-native speakers, reduces the quality of interactions with the language by reflecting artificial and unrealistic dialogues (Gilmore, 2004). Is there a way to combine this approach with another methodology to increase the quality of language interactions by using it in real-life situations?

Furthermore, the reality that surrounds us is increasingly complex, and challenges are arising that force us to adapt to new situations (De la Cerda et al., 2010). This calls for the need to train active citizens who know how to apply knowledge in different contexts to solve problems and thus respond to the great challenges of the 21st century. Indeed, this idea that students must be able to deal with social challenges is reflected in both the Real Decreto 157/2022 and Decreto 61/2022, which explains the competence approach of the Spanish educational curriculum. In other words, we are experiencing a shift from the “what students know” of rote

learning to “what students can do”. However, the author has also noted that the application of CLIL at school does not usually provide opportunities for pupils to apply curricular content in everyday situations. This prevents the development of competences, because as it is applied knowledge, it needs spaces for application (Batlle, 2010). Therefore, young people tend to see school as remote from real life (Erickson & Anderson, 1997), as they do not see the usefulness of the knowledge acquired at school outside this context. Hence, another question that emerges from this observation is whether there is a way to promote the application of curricular content in real-life situations through CLIL.

After getting acquainted with Service-Learning in the subject Theory of Education, offered in the Primary Education Teacher Degree, this author considered that this innovative methodology would be useful in addressing the deficiencies derived from an incorrect application of CLIL. This methodology combines the simultaneous learning of content, values and competences with the performance of services to the community (Puig, 2010). In fact, Service-Learning aims to give knowledge a social purpose since students need to apply what is learned at school to solve community problems, leading to the development of competences. Thus, the main motivation for the selection of this topic has been to explore how the combination of the CLIL approach and the Service-Learning methodology can enrich the educational process in bilingual primary contexts.

This paper aims to address the integration of CLIL in Service-Learning practices to encourage the use of the foreign language and the application of curricular content in real-life situations, as well as the development of active social awareness of learners. The interest in studying such integration also stems from the fact that it can respond to the aforementioned European education policies which emphasise the need to train competent multilingual citizens who are able to apply knowledge to a variety of situations in order to solve social problems.

For this purpose, a theoretical framework which analyses CLIL and Service-Learning individually to describe how the two could be combined and the benefits of doing so is provided. These ideas will be illustrated in a practical way through the design of an integrated project in which students will have to solve waste mismanagement in their school, for which they will need to master curricular content from various disciplines via the foreign language. Finally, a critical reflection is presented in order to analyse the level of attainment of the objectives and competences of the dissertation and the degree, limitations of the study and future directions, and the main conclusions drawn from this paper.

2. OBJECTIVES OF THE DISSERTATION

2.1. General Objectives

A. To summarise and integrate the contents which reflect the competences acquired in the Primary Education Teaching Degree.

B. To apply the content and pedagogical learning strategies to different areas of knowledge.

C. To develop reflective (argumentative), critical (analytic and synthetic) and scientific (documented and terminologically accurate) thinking skills.

D. To develop a project which is at university education level.

E. To develop skills and techniques for appropriate oral and written communication.

F. To use ICT (Information and Communication Technologies) relevant to the teaching profession. (Facultad de Educación de la Universidad Complutense de Madrid, 2024, p. 14)

2.2. Specific Objectives

a) To identify Service-Learning as a methodology that enhances the benefits of CLIL.
b) To analyse the CLIL approach and Service-Learning methodology individually to identify commonalities and establish how they could benefit each other.
c) To examine why it would be beneficial for students to engage in real problems in which they have the opportunity to use the foreign language.
d) To describe the benefits of the application of curricular content to real-life situations.
e) To show how CLIL and Service-Learning could be combined to offer real and meaningful learnings in which students play an active role.
f) To propose an interdisciplinary learning situation in which the CLIL approach is applied through a Service-Learning project.
g) To develop a proposal that shows how the combination of CLIL and Service-Learning fosters most of the competences set out in the Decreto 61/2022.

3. THEORETICAL FRAMEWORK

Globalisation is undoubtedly changing the way in which different societies relate to each other and, according to theorists such as Vallance (2015), this results in an increased demand for proficient individuals in several languages. Although measures to implement language learning vary between European countries, they all share the desire to achieve the best results in the shortest span of time, especially since the emergence of global comparative rankings such as the Programme for International Student Assessment (PISA), promoted by the Organisation for Economic Cooperation and Development (OECD), as noted by Coyle et al. (2010).

Currently, one of the most researched approaches to bilingual teaching is Content and Language Integrated Learning (CLIL). Given its numerous benefits, it has become one of the most widely used approaches throughout Europe. In fact, CLIL programmes have been implemented in all European countries with the exception of Greece, Bosnia, Herzegovina, Iceland and Türkiye (Eurydice, 2023). The most extended type of CLIL programme, which is used in 29 of the 34 countries with a CLIL approach, consists of teaching some subjects in the native language and other subjects in the foreign language (Eurydice, 2023). However, although this approach contributes to the development of the multilingual competence longed for in the 2002 Action Plan, its application in the classroom also presents shortcomings because real language use is not reflected. The main resource for implementing this approach continues to be textbooks and, as they are specifically designed for non-native speakers, the dialogues that are presented are artificial and unrealistic taking into account the standards of linguistic use (Gilmore, 2004; Widdowson, 1998). This, together with the lack of opportunities for learners to use the foreign language in real contexts, reduces the quality of interactions with the language. Therefore, in order to contribute to the development of competent multilingual citizens, it is necessary to involve learners in real-life situations in which they have the opportunity to use the target language in meaningful ways. Thus, CLIL could benefit from methodologies such as Service-Learning, in which students not only use the foreign language in real-life contexts, but also play an active role in tackling social problems.

In this theoretical framework, the most widespread current approach to bilingual teaching in Europe (CLIL) and an innovative active methodology (Service-Learning) will be analysed in order to justify the subsequent educational proposal. Firstly, section 3.1. explores the origins of CLIL in Europe, its essence and its characteristics in order to identify possible shortcomings in the authentic use of language. Secondly, section 3.2. addresses the characteristics and elements of Service-Learning, with special focus on the active role of learners, the application of curricular content to solve real community problems and the

development of competences and values. Lastly, section 3.3. argues how the CLIL approach could be combined with Service-Learning to maximise the effects of both, as well as to provide meaningful learning experiences in which learners use the target language in real-life situations.

3.1. CLIL Approach

3.1.1. CLIL definition and its relevance in Europe

The Action Plan for Language Learning designed by the European Commission in 2002 placed particular emphasis on the need for European citizens to be proficient in at least two foreign languages in addition to their mother tongue (Council of the European Union, 2002). The aim of this measure was to promote European mobility, social cohesion, intercultural dialogue and economic development, as well as to protect the continent's linguistic diversity in order to maintain its cultural heritage (Baetens, 2011; Salaberri & Sánchez, 2012). In this context, the promotion of foreign language learning became a vital goal for European governments to strive for. In order to achieve this purpose and to build a multilingual Europe, bilingual education has been progressively implemented over the last two decades throughout the continent.

One of the major influences on the development of European bilingual programmes was the Canadian Immersion, which, despite efforts, was difficult to translate to European education (Ruiz, 2010). Consequently, the CLIL approach emerged in the 1990s as an European alternative to immersion programmes with the aim of developing foreign language competence across diverse sectors of the society in a short span of time (Bower et al., 2020; Otto & Cortina-Pérez, 2023; Escobar Urmeneta, 2019). It is worthwhile noting that while the focus of Canadian immersion is to achieve native or near-native proficiency in the target language, especially in receptive skills, the aim of CLIL is more pragmatic, as it tries to achieve functional proficiency in both receptive and productive skills (Baetens, 2011). Since CLIL programmes have the potential to develop competent citizens who can function in several languages, this approach was highlighted in the European Commission's Action Plan of 2004 as making important contributions to the European Union's language learning objectives (European Commission, 2003).

The CLIL approach, which was coined by David Marsh, stands for "Content and Language Integrated Learning". According to Coyle et al. (2010), it is "a dual-focused educational approach in which an additional language is used for the learning and teaching of both content and language" (p. 1). Therefore, it is an umbrella term that refers to any kind of education in which a foreign language is used to teach non-linguistic contents (Otto & Cortina-Pérez, 2023).

CLIL programmes vary greatly across Europe, as the language teaching situation in each country is very diverse and cannot be applied uniformly to all countries. In fact, even though this approach is used in more than 30 European countries, there is considerable variation in starting age, duration, intensity, and curricular and linguistic objectives (Ruiz de Zarobe & Cenoz, 2015). For this reason, there are no specific guidelines on how to apply CLIL, as it covers many types of foreign language education, and can be implemented in a wide array of classroom practices depending on the context. This is precisely the reason why CLIL is considered an approach and not a methodology. However, it must be noted that CLIL consists of using a foreign language rather than a second language (Daltor-Puffer et al. 2010). In other words, the language which is employed as a means of instruction is not normally spoken in the wider society, and tends to be typically restricted to the school context, so exposure to the language outside of the lessons is very limited. Hence, teachers who are in charge of CLIL lessons are normally non-native speakers of the foreign language (Dalton-Puffer et al., 2010). The preferred language for CLIL programmes in Europe is English, as it is recognised as the lingua franca of the 21st century, but other languages used to a lesser extent are Spanish, German and French (Dalton-Puffer et al*.,* 2010).

3.1.2. Characteristics of CLIL and its application in the Spanish educational system

What differentiates CLIL from traditional foreign language instruction is that this approach is content-driven. As pointed out by Harmer (2015), whereas the objective of foreign language lessons is simply to learn the language, in subject specific lessons the crucial thing is the content. So, although attention is given both to the target language and the curricular content (Coyle et al., 2010), the main focus in CLIL is on content. Consequently, the starting point for planning in CLIL lessons is the content, and the exchange of messages takes place around curricular content (Escobar Urmeneta, 2019). As a result, pupils learn the language because they need it to understand the content and to participate in the lessons (Breeze et al., 2014). What is more, as in CLIL programmes the target language is not the goal, but the means of communication about topic-related issues, the pressure to use the language correctly is substantially less than in traditional foreign language lessons (Breeze et al., 2014). This is precisely the reason why error correction in the target language tends to be absent in these lessons, and why linguistic demands may remain implicit.

Even though the most important thing in this approach is non-linguistic content matter, some authors argue that CLIL “is neither language learning nor subject learning, but an amalgam of both” (Coyle et al., 2010, p. 4). Thus, the essence of this approach lies in its integration of both content and language (Renau & Mas Martí, 2018). The purpose of this integration is that the language is learned by being used, and not first learned and then used (Cenoz, 2015). In other words, the foreign language in CLIL is not taught as a set of closed grammatical rules

(Klewitz, 2021), as would happen in traditional foreign language lessons, but is used as a means to learn. Therefore, the focus is on meaning rather than on form, and the objective is far from being grammar and lexical progression, but the use of the language to engage in the lessons. In fact, it is precisely this language use that facilitates content learning (González & Taronna, 2012). The idea behind this is that students subconsciously acquire the foreign language as they learn the contents (Renau & Mas Martí, 2018), as it would happen in first language acquisition. So, in other words, the target language is learned resembling natural language acquisition. Indeed, the fact that CLIL consists of a combination of content and language, and that education is carried out by teaching through a foreign language, without explicit foreign language instruction (Renau & Mas Martí, 2018; Dale & Tanner, 2018), that makes it not solely a way of teaching an additional language, but an approach that offers benefits in terms of both content learning and multilingual competence.

In the Spanish educational context, CLIL programmes start at Primary Education, and are prolonged to Secondary school levels (Renau & Mas Martí, 2018). The teaching of contents in the foreign language comprises between 10-50% of the total, and tends to be done through English, French, or Portuguese (Baker, 2017; European Commission, Directorate-General for Education, Youth, Sport and Culture, 2006; Renau & Mas Martí, 2018). Typically, these languages are used for the teaching of two to three content subjects, such as Social Sciences or Arts, but the target language is also scheduled as a subject in the form of foreign language instruction (Dalton-Puffer et al., 2010).

Just as CLIL varies from one European country to another, so does it differ from one Autonomous Community to another in Spain. In monolingual regions, the implementation of this approach implies a move from monolingualism to bilingualism, and in bilingual areas, such as the Basque Country or Catalonia, from bilingualism to trilingualism (Renau & Mas Martí, 2018). Therefore, despite the fact that there is an educational legislation that is valid throughout the national territory (Real Decreto 157/2022), each Autonomous Community designs and establishes its own linguistic objectives in line with its particular needs and interests. As established in Real Decreto 157/2022, the main objective of the Foreign Language area of Primary Education is “the acquisition of basic communicative competence in a foreign language, as well as the development and enrichment of pupils’ intercultural awareness” (p.81). In fact, the emphasis on the acquisition of additional languages is so important that one of the eight key competences of the Primary Education curriculum is “plurilingual competence”. Similarly, in accordance with Decreto 61/2022, which is in force in the Autonomous Community of Madrid, the foreign language taught at this stage, and the vehicular language used in CLIL lessons will be, on a general basis, English. In this case, the aim of this area will be to broaden pupils’ communicative possibilities and contribute to the

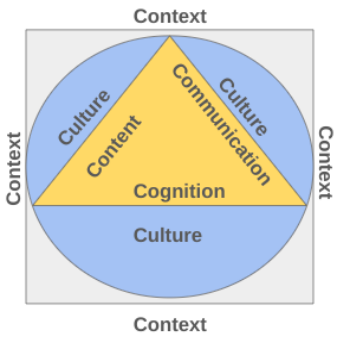
development of the skills to participate in multilingual communicative environments (Decreto 61/2022). Thus, although CLIL programmes vary from one Autonomous Community to another, the objectives of the Spanish curriculum in terms of foreign languages focus mainly on the acquisition of plurilingual competence and interculturality. Therefore, given the analysis carried out previously, the CLIL approach seems to make important contributions to achieving these objectives. Nevertheless, although the implementation of CLIL programmes has lowered the age at which pupils begin to have contact with the foreign language, as well as increased contact hours with it, proficiency levels in especially English continue to be low (Renau & Mas Martí, 2018). Indeed, despite the fact that 40.9% of foreign language teaching, typically English, is done in the Community of Madrid through the CLIL approach (La Moncloa, 2023), student scores in international rankings such as PISA remain slightly below average, according to the latest report (OECD, 2023). In the author's opinion, this is an indicator that a methodological revision of the CLIL approach is needed in order to solve this problem and achieve the longed-for multilingual competence.

3.1.3. The 4cs Framework and the Language Triptych

According to the 4cs Framework, which was developed in the 1990s by Coyle et al. (2010), the CLIL approach is made up of four essential elements: content, cognition, communication and culture, as can be seen in Figure 1. Although these four components can be analysed individually, they are closely related and cannot be considered in isolation. In fact, they should be regarded as a whole when planning CLIL lessons in each specific context.

Figure 1

The 4cs Framework



Note. Adapted from *CLIL: Content and Language Integrated Learning* (p. 41), by D. Coyle, P. Hood & D. Marsh, 2010. Cambridge University Press.

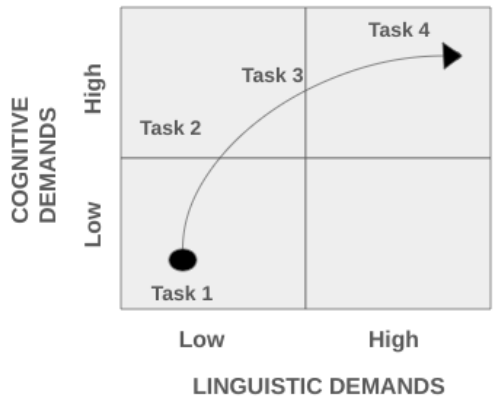
"Content" refers to the topic that students must learn about, either drawn from a curriculum area, such as Natural Sciences or Arts, or cross-cutting themes, such as climate change or road safety education. In fact, the starting point for CLIL lesson planning is the selection of

content (Salaberri & Sánchez, 2012), from which the language necessary for learners to successfully engage in the lessons and complete the required tasks is identified. However, content should not be understood as a passive acquisition of knowledge and skills, but rather as learners themselves constructing their own knowledge (Salaberri & Sánchez, 2012).

Secondly, "cognition" is related to the learning and thinking processes needed to acquire that knowledge. Since students are challenged to construct their own understanding of the content and develop the skills associated with it, thinking processes have to be examined to identify the linguistic demands (Salaberri & Sánchez, 2012). In other words, as "lessons are organized around the exchange of messages with curricular content" (Escobar Urmeneta, 2019, p. 10), the language needed to participate in the lessons must be analysed so that pupils can cognitively get involved. In order to examine linguistic demands in relation to cognitive demands, Cummins (1984) developed a matrix that integrates both aspects. According to this matrix, the tasks on which learners have to engage should initially be low linguistically and cognitively demanding, and progressively become high linguistically and cognitively demanding, as shown in Figure 2. Moreover, in the process of knowledge construction, students are expected to move from low-order thinking skills (LOTS) to high-order ones (HOTS), taking as a reference Bloom's taxonomy (1956), then reviewed by Anderson and Krathwohl (2001). In line with this pyramid, students are expected initially to perform tasks involving simple cognitive processes such as remembering or understanding. Gradually, as they are equipped with the necessary language to understand the content, they would move towards more demanding tasks that involve evaluating or creating. Therefore, the learning process through CLIL is based on constructivist principles, such as scaffolding.

Figure 2

Cummins' Matrix



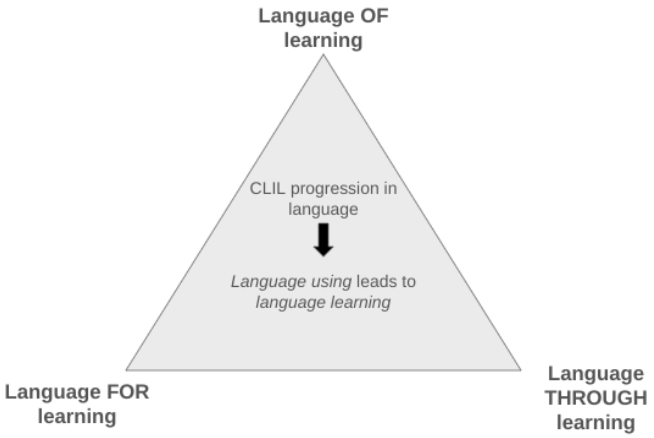
Note. Adapted from *CLIL: Content and Language Integrated Learning* (p. 43), by D. Coyle, P. Hood & D. Marsh, 2010. Cambridge University Press..

The third component, “communication”, refers to the use of all available resources to understand and make oneself understood in relation to the content. As each discipline has its own discourse patterns, also called academic literacies (Coyle, 2015), language demands vary depending on the subject-matter content. In this way, the target language becomes a vehicle to communicate curricular content, so classroom interactions revolve around content-related issues. Through this procedure, pupils, “while using language to learn, they learn to use language itself” (Renau & Mas Martí, 2018, p. 1111). Precisely because communication focuses on the meaning of the message and not on its form, learners gradually internalise the rules of the language, resembling natural language acquisition.

In order to connect cognitive and content demands in relation to the language necessary for communication in CLIL lessons, Coyle et al. (2010) developed the “Language Triptych”, commonly represented by a pyramid, as shown in Figure 3. According to this model, there are three types of language in any CLIL approach. Language of learning focuses on the language needed to access the content and the underlying knowledge and skills, such as key vocabulary or concepts. For example, if the topic is “the human body”, it is the name of the main muscles and bones. Language for learning refers to the language students need to successfully operate in a classroom where the vehicular language is not their native language (Coyle et al., 2010). That is, it includes the language needed to function in group work, for questioning or asking for clarification, for expressing disagreement, etc. Lastly, as the needed language cannot always be predicted, language through learning revolves around the new language that will naturally emerge through learning. As pupils construct new knowledge, understanding and skills, new language will emerge as well (Coyle et al., 2010).

Figure 3

The Language Triptych



Note. Adapted from *CLIL: Content and Language Integrated Learning* (p. 36), by D. Coyle, P. Hood & D. Marsh, 2010. Cambridge University Press.

The last element to be included in CLIL lessons is “culture”. It aims at fostering linguistic and cultural awareness of others, but also of the self, in order to develop global citizenship and intercultural understanding (Renau & Mas Martí, 2018; Coyle et al., 2010). Normally, culture tends to be the forgotten “C” when planning CLIL lessons. Nonetheless, it should always be addressed to prepare students for a globalised world.

Other scholars, such as Ball (2016), suggest the emergence of a new C: “Competence”. Given the current social needs, which demand active citizens capable of solving problems, the need to adapt this framework to contribute to the achievement of this goal is coherent. In fact, such is the importance in European governments of training citizens who, rather than knowing facts, know how to act, that the current Spanish educational curriculum has a competence approach. Since a competence is only observable through a series of actions (Ball, 2016), this competence could be included in the framework through can-do descriptors.

To conclude, the 4cs Framework is useful because it shows a holistic view of how language demands are linked to the communication of content, making use of high-order thinking skills, while developing intercultural awareness. However, although it shows what elements make up the CLIL approach for its effective implementation, it does not provide guidelines on how to proceed with this application. Thus, whilst the purpose of integrating these elements is to achieve the longed-for communicative and intercultural competence, the absence of guidelines on how to put this approach into practice may lead to scenarios that are far from achieving these objectives.

Both the 4cs Framework and the Language Triptych will be used in the educational proposal, as well as in the justification of why Service-Learning contributes to enhance the integration of these components in a meaningful way.

3.1.4. Benefits of CLIL

The main benefit to be drawn from the CLIL approach is that, by integrating content and foreign language, two objectives can be achieved at the same time: the learning of a language and of curricular content (Baker & Wright, 2017). In other words, students are not only acquiring specific knowledge in different academic disciplines, but simultaneously developing language skills in a foreign language.

According to numerous studies, such as the one conducted by Baker and Wright (2017), language acquisition is accelerated by integrating language and content, compared to language learning that would take place in a traditional foreign language classroom. The reason behind this is that the length of exposure to the foreign language is an important predictor of success in foreign language development (Escobar Urmeneta, 2019). Therefore, given that through the CLIL approach, in addition to receiving foreign language lessons,

pupils are also taught curricular subjects through the target language, the time they are in contact with the language is doubled. It can hence be stated that CLIL increases the number of contact hours with the target language.

On the other hand, in addition to increasing exposure to the language, this approach also boosts the quality of interactions with it. Coyle et al. (2010) emphasise that authenticity is key for successful learning. Thus, building upon this concept, communication in CLIL lessons is authentic and meaningful because there is a purpose for using the target language: to convey subject-matter issues. Several authors have pointed out that the authenticity of CLIL, rather than being found in the use of material created for native-speakers of the language, lies in the purpose or reasons for which the language is used (Pinner, 2013; Dalton-Puffer, 2007). That is, the need to use that language to engage in the class is what makes those interactions meaningful, leading to authentic communication.

In addition, considering Gardner's (2000) theory of motivation, an essential element of motivation is the desire to learn the language. Thus, based on the idea set out in the previous paragraph, learners are motivated because they truly feel that they need to use the target language to cope in the classroom. In this way, not only language learning is facilitated, but also the students' commitment to learning the language increases. Moreover, according to CLIL principles, thanks to this "language using", they learn the target language unconsciously (Renau & Mas Martí, 2018). In fact, several scholars support this idea, such as Krashen (1982), who notes that grammar rules do not need to be explicitly taught since they can be acquired subconsciously through exposure to the language. According to Krashen's comprehensible input theory (1982), we acquire the language when we understand language that contains structures that are slightly beyond our current competence. This "understanding" refers to the learners being focused on the meaning of the message, rather than on the form. Even at the lower levels of Primary Education, pupils will understand what their teacher means, even if they do not understand all the words used or the grammatical rules involved. Similarly, when communicating content-related issues, students will concentrate only on the meaning of the message and not on the form, fostering communicative competence and the use of language for pragmatic purposes. Thus, as the target language is not the object, but the means of conveying content matter (Breeze et al., 2014), the pressure to use the language correctly is greatly reduced. This has a positive influence on language acquisition because, as Gardner (2000) points out, the attitudes learners show towards language learning context influences language acquisition because of the emotional associations students make.

Krashen (1982) believes that language can be understood even if it is above one's own level because we use context clues and extra-linguistic information to decode it. This is precisely

what happens in the CLIL approach, as the target language is contextualised through the content. That is, as language is learned in relation to the content of specific academic disciplines, there is contextual support to draw on in order to understand that language which is beyond one's ability. Unlike materials used in traditional foreign language lessons, which highlight specific aspects of the language in isolation, materials in CLIL are more about communicating a message about the content (Gilmore, 2007). Therefore, if the content is about mammals, all the language used will be related to it. This will significantly facilitate the comprehension of the language, as it is learnt within the context of that specific topic.

For all the above reasons, CLIL has numerous benefits in terms of simultaneous learning of a foreign language and curricular content, doubling the amount of contact hours with the target language, as well as increasing the quality of interactions with it. However, thorough planning is required in order to put these principles into practice, which tends not to be the case in teaching practice. Consequently, the objectives of CLIL, such as the development of communicative competence or the pragmatic use of language, tend not to be realised.

3.1.5. Shortcomings of CLIL

According to the principles governing CLIL, this approach has many benefits, as examined above. However, in this section, the "Six Quality Criteria for successful CLIL lessons", developed by Oliver Meyer (2010), will be used as a reference to check whether these criteria are actually met in practice. In this way, the shortcomings of this approach will be reviewed so that improvements can be proposed.

The first criterion Meyer (2010) sets out for CLIL to be of quality is the presence of rich input, and specifies that for it to be rich it must be authentic, meaningful and challenging. If we define "authentic" as the use of materials that have been created in the target language for individuals belonging to that culture (Pinsonneault, 2014), the resources used in CLIL tend not to be authentic. Since in most programmes textbooks are designed for foreign language learners, and no materials created for native speakers of the language are used, the language usage they reflect is artificial. The reason for this is that they do not show real and pragmatic use of language according to normal standards of language use (Widdowson, 1998).

If motivation is crucial for successful language learning (Bower et al., 2020), the materials used need to be meaningful to learners. Coyle et al. (2010) believe that in many countries the coursebook is still the determinant of classroom practice, but that it is not the case in CLIL. Nevertheless, the reality is far from what these authors suggest, as in the current Spanish education system, children continue to use the textbook for integrated language and content learning. It is difficult for students to find the content presented in a textbook meaningful if it

does not connect with their lives. Thus, if pupils cannot relate what they learn to real life, they see what they learn as redundant (Widdowson, 1998). In other words, if they do not feel they need to learn the language because they see no real use for it, they will not learn it since the desire to learn a language is essential to language development (Gardner, 2000). This situation is worsened in younger learners, as egocentrism still predominates in the pre-operational stages or at the beginning of the concrete operational stage, according to the developmental theory of Piaget (1975). Therefore, teachers must link both language and content to the real world (Renau & Mas Martí, 2018), especially to what directly affects students, so they find what they learn useful and meaningful. Indeed, there are scholars, such as Widdowson (1998), who argue that language can only be authentic and meaningful if it is embedded within a particular discourse community.

The presence of challenging input can be linked to Meyer's second criterion: "scaffolding learning" (Meyer, 2010). This concept is based on Vygotsky's theory of the Zone of Proximal Development (ZPD). According to Vygotsky (1978), the zone of proximal development is the distance between the child's current level of development, which is the level at which the child can solve tasks independently, and the level of potential development at which the infant can complete tasks with the assistance of an adult or a more capable peer. Based on this idea, Wood et al. (1976) define scaffolding as the means by which an expert helps someone less expert to carry out a task that would be beyond his own capability. In this process, the adult or more capable person simplifies the task into subtasks, so that the novice would perfect first those tasks that are within his range of ability. Gradually, the expert promotes the novice's autonomy by allowing him to perform the tasks on his own. In this way, the learner develops the necessary skills faster than if he had to complete the tasks without any assistance (Wood et al., 1976). Building upon these concepts, CLIL meets the criterion taking into account the principles that govern it. The teacher, taking the content as the starting point, presents the grammatical structures and vocabulary that students need to engage in the lessons. Furthermore, there are tasks that are challenging and which require HOTS, for which they are simplified into simpler ones. Consequently, learners refine the simpler cognitive and linguistic skills and, with the help of the teacher, move towards the more demanding ones. The aim of this process is for students to be trained to think for themselves and perform tasks independently that are useful for their lives (Renau & Mas Martí, 2018). However, in the Spanish education system there is a tendency for students to passively acquire information, which prevents the development of HOTS and the skills needed to cope with a globalised world. Young learners do not need a knowledge base that is continually growing, but rather they need to know how to use it in real life and, for this, it is necessary to promote active student learning (Coyle et al., 2010; Cummins, 2005).

The third criterion pointed out by Meyer (2010) is “rich interaction and pushed output”. Given that interaction in the CLIL classroom is essential for language acquisition (Coyle et al., 2010; Escobar Urmeneta, 2019), CLIL educators should not talk much because learners are not prepared to learn this way (Renau & Mas Martí, 2018). Nevertheless, the reality is far from this, as there is still a predominance of a teacher-centred approach in the teaching-learning process. This could explain why the level of multilingual competence in Spain remains low. Coyle et al. (2010) are aware that today’s classroom interactions consist mainly of the teacher asking questions, the students responding, and the teacher’s affirmation or rejection. They emphasise that this type of exchange severely limits communication. Several authors stress the importance of social interaction in language acquisition, such as Salaberri & Sánchez (2012), Renau & Mas Martí (2018) and Bajtín (1975). The latter, in his theory of dialogue, argues that language is a social phenomenon because linguistic communication consists of a dialogue in which meanings are exchanged. Therefore, a change of mindset is needed in terms of CLIL teaching techniques. Otherwise, learner output will be severely limited. Instead of promoting a passive role in which learners are merely recipients of information, it is pivotal to plan sessions in such a way that they play an active role and are given opportunities to interact with their peers, using the target language in genuine and meaningful ways.

The fourth principle for CLIL to be successful is to introduce the intercultural dimension to prepare students to be active agents in an increasingly globalised world. Therefore, in addition to knowing how to communicate content in the target language, they must also be sensitive to cultural codes, values and beliefs, so that they are aware that other cultures see things differently (Meyer, 2010). Nonetheless, according to Meyer, comparative studies of various textbooks used in CLIL programmes suggest that the intercultural dimension is not yet exploited to achieve this goal (2010). In fact, it is often the case that the only opportunity students have to learn about target culture is on concrete festivities, such as St. Patrick’s Day. Such a superficial approach to other cultures hardly contributes to the development of intercultural competence in which students are exposed to the codes of conduct or customs of other cultures. Moreover, this objective is hampered by the fact that the language shown in the coursebooks, being created specifically for foreign language learners, is artificial and does not show the real language that would be used by native speakers.

The fifth criterion concerns organising the lessons in such a way that they call upon high-order thinking skills (HOTS). In Meyer’s words, effective learning calls for the creation of “environments in which learners are engaged, challenged and saturated with diverse types of thinking” (2010, p. 21). To this end, it is essential to abandon the traditional teaching approach in which the teacher assumes a predominantly directed role and, in this way, to

encourage active participation of students in constructing their own knowledge. For this purpose, use can be made of Anderson and Krathwohl's (2001) taxonomy, in which learners can be guided through scaffolding to move from basic cognitive skills to more complex ones.

The last principle required for a CLIL session to be effective is that it should be based on "sustainable learning". According to Meyer (2010), students need to acquire active learning that becomes deeply rooted in their long-term memory, so that they can retrieve it and apply it in real-life situations to solve problems. In fact, rather than thinking about the content of the lesson or the language being learned, teachers should think through can-do descriptors about what they want their students to be able to do after the lesson (Escobar Urmeneta, 2019). Nevertheless, rather than promoting the development of competences so that students know "how to act" with the knowledge they have acquired, there is a tendency to encourage a passive acquisition of content, without pupils being able to relate it to real life. Consequently, they cannot find any use in what they learn beyond the classroom. For all this, this principle tends not to be fulfilled in teaching practice. A summary of the six principles outlined by Meyer (2010) for testing whether a CLIL lesson is successful can be seen in Table 1.

Table 1

Six Quality Criteria for successful CLIL lessons

Number of criterion	Characteristics
Criterion nº 1	Rich input (authentic, meaningful and challenging)
Criterion nº 2	Scaffolding learning
Criterion nº 3	Rich interaction and pushed output
Criterion nº 4	Adding the intercultural dimension
Criterion nº 5	Make it High-Order Thinking Skills
Criterion nº 6	Sustainable learning

Table created by the author and based on the quality principles proposed by Oliver Meyer (2010)

After having identified certain deficiencies and possible improvements of CLIL based on Meyer's criteria, the author will end this section by pointing out briefly other shortcomings of the CLIL approach that have been identified by other scholars and/or studies. To begin with, it would be pertinent to ask whether the integration that is at the heart of CLIL really takes place. Baetens (2011) believes that in practice teachers fail to integrate language and

content in a meaningful, useful and productive way because, given the pressures in the education system, it is difficult to integrate aspects that used to belong to different curriculum areas (Breeze et al., 2014). Thus, at least in CLIL programmes in Spain, there is an excessive focus on the target language to the detriment of the content or vice versa, with no room for the potential simultaneous learning of both. As a result, assessment also tends to focus on one aspect or the other, rather than on both (Breeze et al., 2014). Scholars such as Ahern (2014), point out that stakeholders are concerned that the use of a foreign language as a means of learning content makes it less comprehensible than if it were taught through the mother tongue. This could be a reason why teachers choose to focus on content teaching rather than on language teaching, for example. Indeed, numerous studies suggest that CLIL educators see themselves as subject teachers rather than language teachers, or that they are subject specialists without formal qualifications in the target language (Villabona & Cenoz, 2022; Klewitz, 2019). Thus, the attitudes held by educators have a decisive influence on their teaching practice, as they are not really implementing the CLIL approach. As they tend to see themselves as either content or language professionals, they are teaching only one of these disciplines using traditional methods (Renau & Mas Martí, 2018), instead of teaching both in an integrated way following the principles that govern this approach. Lastly, it is worthwhile noting that although CLIL increases contact hours with the target language compared to traditional foreign language lessons, this may still be insufficient time to develop satisfactory language proficiency. It is noteworthy that in the Spanish education system, the teaching of content in the target language comprises between 10-50% of the total (Baker, 2017). Therefore, if some schools settle for the minimum time set by law for integrated content and language teaching, they are unlikely to reach the threshold level necessary to develop effective communication (Escobar Urmeneta, 2019). Moreover, given that language teaching focuses more on teaching about language than on using it for pragmatic purposes (Halbach, 2014), the development of the much sought-after communicative competence set out in the law is far from being achieved by these means.

For all of the above reasons, we can conclude that the shortcomings of CLIL, rather than being found in the approach itself, arise from a lack of appropriate resources and a methodology that follows these principles. Besides, there is a deficiency of teacher preparation which makes them incompetent in putting this approach into practice, leading to a failure to reach the full inherent potential of CLIL. In other words, although CLIL has significant linguistic and curricular benefits, a review of the techniques used to put this approach into practice is necessary if successful learning is to be promoted.

3.2. Service-Learning Methodology

The 21st century is labelled as the information age (Palmero, 2008), since it is characterised by an enormous amount of content that must be acquired incessantly. However, it is common for young people to regard school as remote from real life (Erickson & Anderson, 1997), as the knowledge they acquire at school has little to do with their life outside the classroom. In other words, there is a lack of connection between school and the world outside it. In fact, Ausubel (1976) already noted the impossibility of school knowledge to satisfy the needs of everyday life. For this reason, current education systems are calling for meaningful methodologies that facilitate not only the retention of information, but especially its application to solve real problems in order to respond to the great challenges of the 21st century.

On the other hand, in the last few decades there has been a growing concern for education in values and citizenship, given the excessive emphasis on individualism to the detriment of the collective interest. As a result, there are authors who argue that the prime task of education is to make citizens in order to favour the flourishing of democratic societies (Fuentes et al., 2022). Although nineteen European Union countries have a subject which aims to address this objective, called Education for Citizenship or Ethical Values among other nomenclatures, it is a low profile subject within the school curriculum, typically taught for one hour a week by non-specialised teachers (Fuentes et al., 2022). Moreover, given that this subject tends not to offer practical experiences in which to bring students into direct contact with civic values, the results obtained are negligible. This problem has already been raised by several countries, which is why 2005 was declared the European Year of Citizenship through Education (Martínez-Odría, 2007), with a view to suggesting lines of action to promote a change in civic and values education that would really prepare pupils to be active citizens. Even so, the situation has not undergone any change towards the achievement of this objective, as traditional methodologies, whose aim is the mere retention of information without applicability to real contexts, continue to be used. Therefore, this section will present Service-learning as a potential methodology to solve this problem and promote meaningful learning through real experiences in the community, in which students play an active role and learn by doing.

3.2.1. The origins of Service-Learning: historical background

Service-learning (SL) has its roots in the 1930s in the USA as a result of the progressive movement in the social, political and educational spheres (Jagla & Tice, 2019). According to these authors, the following decades, marked by the Great Depression or the War on Poverty, contributed to defining the ideologies involved in this methodology, as well as its

principles. Although it is a fairly innovative pedagogy, many of the fundamental principles underpinning it have been addressed by several authors before.

One scholar who discussed most of the principles that constitute the essence of Service-learning was John Dewey, but he never actually designated his pedagogy by this name. Dewey (1930) was a strong advocate of experiential learning, noting that the more directly the child learns through real social situations, the more genuine and effective the knowledge is. This is because it is only by experiencing something through a real life situation that this event begins to mean something to the child. In other words, according to this author, one learns by doing because in this way one recognises the value of the result (1930). In Dewey's words, "children can see things for themselves; they learn citizenship by being good citizens" (p.200). Thus, isolated knowledge presented in a textbook can never achieve this end. The statements presented there are all equally valid because they are less conductive to real-life application. In other words, a connection of learning to real-life situations through coursebooks is prevented, as children become passive recipients of decontextualised information. Consequently, Dewey (1930) argues that genuine knowledge only takes place through action and that, in fact, children have a natural tendency towards action. This postulate can be linked to the essence of currently popular innovative methodologies such as *Learning by doing.*

On the other hand, Dewey argues that all content, in order to be educational, must reproduce real-life situations, and that the more it belongs to students' immediate environment, the more interest it will arouse (1930). Moreover, he points to community problems as an opportunity to learn and to help schools thrive, closely in line with the starting point of Service-Learning. By feeling that they are responsible for solving a problem that directly affects their community, pupils will perceive this activity as motivating, thereby boosting their commitment to learning. This would solve a problem that Dewey already pointed out in his time, but which continues to be reproduced in today's education system: early school dropout, especially among the foreign population. According to the latest report on the Integration of Foreign Students in the Spanish Educational System (Ministerio de Inclusión, Seguridad Social y Migraciones, 2022), foreign students represent 11% of the total student body. In the most advanced educational stages, such as Secondary Education or Baccalaureate, the schooling rate of foreigners is half that of Spaniards. Besides, the dropout rate of foreign students is double that of Spanish students, with the former at 26.5% compared to 11.4%. Therefore, the experiential learning at the heart of Service-Learning is presented as a catalyst to reduce this dropout rate, as students would recognise these experiences as interesting and of value.

Another great advocate of experiential learning and community problems as opportunities for meaningful learning is Amitai Etzioni. His research focused mainly on how the natural sociability characteristic of human beings enhances their moral and human potentiality (1999). Given that individuals are embedded in a particular social context and cannot exist apart from it (Etzioni, 1999), community and individuality are mutually enriched. The individual, by voluntarily contributing to achieving a common goal or solving a community problem, is empowered thanks to the community. Etzioni argued that it was necessary for the parts of society, i.e. the individuals belonging to it, to contribute to the satisfaction of their needs and to perceive them as a common goal (1999). During this process, he highlights that there must be a balance between the cultivation of social responsibilities and individual rights, as individual autonomy must always be respected. According to this author, as long as this balance is maintained, mutual benefit between the individual and society will be achieved. Etzioni (1999) notes that this social model must rely primarily on education, since the school, as a social entity, is best placed to bring its members into contact with social needs. Thanks to the school, students can feel connected to their society and voluntarily commit themselves to solving emerging problems, because they assume values in which they believe, and by which their activity is governed. This is precisely why he argues for the need to introduce opportunities to practise civic skills at school (Etizioni, 1999). In other words, in line with Dewey, one learns to be a good citizen through action, through experiences that enable one to cultivate the skills necessary to achieve that end.

Another pedagogue who put forward ideas closely linked to the principles of Service-Learning is Paulo Freire. The fundamental premise advanced by this author is that education is an instrument for liberation and social transformation (Freire, 2014). In the same vein as in Service-learning, Freire (2014) argues that education should provide opportunities for students to critically analyse and understand their reality and act to change it. He termed this process of critically analysing social problems and promoting transformative action through the search of solutions as “conscientization” (Freire, 2014). This objective constitutes one of the essential principles of Service-learning. On the other hand, Freire pointed out that, in order to achieve this social change, it is necessary for the education system to encourage active participation and dialogue. In other words, another author again argues how experiential learning contributes not only to improving the community and strengthening civic engagement, but also to connecting theory and practice in meaningful ways, just as Service-learning aims to do.

Service-learning pedagogy is closely linked to community service, and one educator who emphasised the role of the community in educational processes was Johann Heinrich Pestalozzi. According to this author, the community provides a nurturing environment in

which the learner can flourish (Pestalozzi, 1885). Furthermore, in his work, through everyday situations, he demonstrates the potential of experiential learning and direct observation, especially in the natural environment, for the holistic development of children (Pestalozzi, 2003). In the same line, in Service-learning, the real experiences offered by community services act as catalysts for the moral, intellectual and emotional development of participants. Finally, Pestalozzi (2003) also emphasised the need for a child-centred approach to education. Precisely, the Service-learning methodology offers the learner an active role in solving the problems of his or her community, fostering autonomy and responsibility.

Lastly, James Coleman researched social capital and how the community could influence students' academic success. According to him, community involvement contributes not only to the benefit of the community, but also to the building of social capital (Coleman, 1966). Furthermore, Coleman (1966) argues that education, to be governed by the principle of equity, must address inequalities and promote engagement with society. The starting point of Service-learning is precisely the analysis of social reality in order to involve students actively in solving problems. Additionally, based on his rational choice theory (Coleman, 1966), students reflect on the ethical consequences of their actions, and decision-making to improve their community is always based on reflection. Likewise, reflection is a key element in each of the phases that make up Service-learning programmes.

In short, although Service-learning has started to resonate strongly in the last two decades, there are several scholars who, prior to the emergence of this methodology, already addressed the benefits of experiential learning, the role of the community in education, or the active role of students.

3.2.2. Definition and characteristics of Service-Learning

Service-learning is a methodology that combines the simultaneous learning of content, values and competences with the performance of services to the community (Puig, 2010). It includes either experiences that can span an academic year, a semester or even a few weeks (Felten & Clayton, 2011).

The essence of this pedagogy lies in the integration of curricular content and community service. In fact, such service is integrated within the curricular learning objectives (Erickson & Anderson, 1997). Thus, curricular learning and voluntary community service constitute an inseparable binomial (Martínez-Odría, 2007) that mutually enriches each other and whose importance is of equal relevance in these programmes. This is because there can be no meaningful learning of content and competences without civic engagement, but civic engagement will lack quality if it is disconnected from knowledge (Puig, 2010). Namely,

Service-learning aims to give knowledge a social purpose, and to apply what is learned to solve community problems beyond the pursuit of school success. In other words, the academic contents that students must learn are those they need to solve the problem, which presents it as a motivating methodology. In this way, learning does not appear fragmented as tends to occur in educational systems, but rather this practical experience facilitates the creation of links between knowledge from different disciplines that are integrated into a whole (Vázquez, 2015). Thus, the objective of Service-learning is to promote civic and values education through their practice, to favour education for citizenship and to apply knowledge to improve the community (De la Cerda et al., 2010).

Regarding the steps to be followed in any service-learning project, Yankelovich (1991) described the existence of three phases: awareness, in which students must identify the community problem and the cause of it; reaction to the problem, in which they take action and seek proposals to solve it; and, finally, resolution of the problem, which is the consummation of the previous processes.

The main characteristics of Service-learning are presented below.

3.2.2.1. Connection between content and service.

The essence of Service-learning lies in the integration of curricular learning and community service. Nonetheless, the starting point of these programmes is the service to be performed once the problem has been identified. Thus, the objective of these experiences is the service, while training for it becomes the means to do it effectively (Trilla, 2010). Therefore, students may perceive these activities as motivating because they see the usefulness of what they learn and the purpose behind it: to solve community problems. The educational value of learning through social situations was already noted by authors such as Dewey (1930), Etzioni (1999) and Pestalozzi (1885).

3.2.2.2. Experiential and meaningful learning.

The learning that emerges from service-learning practices is meaningful because students learn through experience. According to Ausubel (1976), the only knowledge that one really understands is the one that is discovered for oneself. In service-learning, it is the students themselves who, after becoming aware of a real problem in their community, must discover the best solution to solve it. Since learners are challenged to study social real problems for real people at a real time (Furco, 2010), they must first discover for themselves the causes of the problem in order to propose solutions through a research process. That is, through the experiential learning present in service-learning, the learner not only discovers knowledge for himself and relates it to his existing cognitive structure, but transforms it to generate solutions to the problems he is confronted with (Ausubel, 1976). In short, students learn by directly

witnessing and experiencing real problems, and they have opportunities to relate what they learn to their cognitive structure. In repetitive learning, in contrast, there is no interaction between what learners learn and what they already know because it lacks meaning for the learners.

Furthermore, Harmer (2015) states that the strength of motivation will depend on the value that the subject attaches to the outcome he or she wishes to achieve. Since learners are responsible for proposing solutions to improve the life of their community, motivation for learning and commitment to the tasks will ultimately be high. Ausubel (1976) stresses that meaningful learning requires the presence of two essential elements: potentially meaningful material and a disposition towards meaningful learning. Service-learning fulfils both requirements, as the meaningful material is the real problem affecting their community, and it is precisely the fact that the learners are responsible for solving it that makes them willing to engage in meaningful learning. Based on this criterion, service-learning practices in which students learn through experience are meaningful.

This experiential learning meets today's major challenges, such as the preparation of citizens with practical skills, as opposed to a mere accumulation of information. Therefore, the school, as the social institution that it is, must adapt in order to respond to social demands, and turn students into citizens who are competent to apply the knowledge they acquire in a variety of contexts.

3.2.2.3. Active and student-centred learning.

Ausubel (1976) states that for learning to be active, the responsibility must fall primarily on the learner. In other words, learning must be student-centred. This is precisely what happens in service-learning, as it is the learner who must research, ask questions and solve problems for him/herself. The student is responsible not only for his or her own learning, but also for improving the life of the community. In this way, young people are seen as capable and essential contributors to their society (Levstik & Tyson, 2008). While the role of the learner in these practices is essentially active, the role of the teacher is limited to accompanying and guiding the learning process, but never determining the actions to be followed by students (Martínez-Odría, 2007). The teacher will present ideas to the learner as meaningful as possible (Ausubel, 1976), but it is the learner's responsibility to link them to what he/she already knows, and to transform them in order to solve the tasks. Therefore, service-learning changes the traditional role that students have been playing in the teaching-learning process. Instead of being mere receptors of knowledge, they are the ones who must produce it, so they are active rather than passive learners and, moreover, they are the ones who provide help rather than receive it (Cairn & Kielsmeier, 1991). The fact that students are responsible

for their own learning and for solving social problems contributes substantially to the formation of active citizens and leaders capable of responding to the great challenges of the 21st century.

3.2.2.4. Cooperative learning.

Cooperation can be defined as a group activity in which one collaborates with other members to achieve a common goal (Ausubel, 1976). In service-learning, students must work as a team to address community problems and seek solutions. Not only must they communicate to share ideas, but they must also divide up the tasks exploiting the individual skills of each member. Therefore, pupils also learn from each other. It is precisely because each student has different strengths and all of them are equally necessary that cohesion is also promoted, given that its members feel part of the group (Chiva-Bartoll et al., 2020). Besides, they depend on each other, so collaboration between them is necessary to achieve the common goal successfully: solving the community problem. Thus, service-learning, rather than encouraging individualism, fosters cooperation to achieve common objectives and thus the development of social skills (Puig, 2010).

3.2.2.5. Community service.

Human beings do not develop in isolation (Jagla & Tyce, 2019). In fact, this development is enhanced by the different environments in which an individual participates, which Brofenbrenner (1986) called the microsystem, mesosystem, exosystem and macrosystem. Therefore, the best way to learn is from real needs that arise from the community (Martínez-Odría, 2007). This not only empowers pupils as active and responsible citizens with social problems, but also increases their sense of belonging to the community. Moreover, by providing opportunities for students to witness first-hand the problems of their community, their critical social awareness increases.

3.2.2.6. Learning by doing and development of competences.

In service-learning practices, students learn by putting curricular content into practice in order to solve problems in their community. Therefore, this methodology allows the applicability of the curricular knowledge acquired in the classroom to real-life needs (Martínez-Odría, 2007). In this way, it favours the creation of links between what is learned in school and real life. Students see that what is learned inside the school is useful outside of it. In other words, this pedagogy, rather than promoting the accumulation of knowledge, encourages the application of knowledge in real contexts and learning through experience, in line with the principles of *learning by doing.* It is precisely this approach that allows the development of the much desired competences sought by current education laws, which aim to ensure that students know “how to act”. In fact, the current educational curriculum in Spain has a

competency-based approach. Given that competence is applied knowledge, it is sensible that in order to develop, it needs spaces of application (Batlle, 2010). Thus, there are scholars who state that competences can only be acquired by putting them into practice in genuine situations in which they are necessary (Trilla, 2010). Therefore, in addition to application, the development of competences requires contextualisation (Mendía, 2012). Thus, in service-learning practices, competence development is contextualised because the competences to be developed are those needed to solve the community problem. In other words, they are applied in a real situation, so learners' willingness to develop them is greater because they see their usefulness.

According to Mendía (2012), the development of competences achieved through these processes is linked not only to the development of academic knowledge (learning to learn and learning to do), but also to personal development (learning to be) and social development (learning to live together with other people). Therefore, the benefits of service-learning are not only manifested in the improvement of the community, but also of the individual.

For all the above reasons, and extrapolating it to current Spanish legislation, service-learning contributes especially to the development of three of the key competences: "competence in linguistic communication", "personal, social and learning to learn competence" and "citizenship competence" (Real Decreto 157/2022).

3.2.2.7. Reflection.

Reflection is an essential element in service-learning, as it must take place before, during and after any project. According to Puig et al. (2010), the first exercise of reflection lies in the discovery of reality based on social problems. During the project, students must also reflect on the development of it and, finally, after finishing the project, they must reflect on the results obtained and possible improvements. According to Piaget (1985), reflection enhances acquired knowledge and strengthens competences that drive behaviour. What is more, reflection gives meaning to service-learning projects because it enables one to return to the experience to deepen and learn from it (Puig et al., 2010; Páez & Puig, 2013). In other words, reflection serves to become aware of what has been experienced and to analyse one's own performance.

3.2.3. Benefits of Service-Learning

Although the benefits of service-learning are numerous, it is necessary to point out that they always rely on the quality of the service. To begin with, numerous studies report cognitive benefits, since students who participate in service projects score higher in curricular subjects than their counterparts, probably due to increased motivation and the use of more high-order thinking skills (Erickson & Anderson, 1997). This is because community service helps to understand how curriculum content can be applied to everyday situations (Furco, 2010). Nonetheless, understanding depends on the relationship between practical experience, content and the possibility of reflecting on this relationship (Stukas et al., 1999). For this reason, thorough planning is necessary. On the other hand, students' motivation and involvement in their learning is raised, because they are responsible for solving real problems by integrating knowledge from different disciplines, allowing the formation of links between them, since the needs of the environment cannot be solved from a single discipline (Martín, 2010). In fact, one of the objectives of Real Decreto 157/2022 is for students to connect the learning of all disciplines with real life and, in turn, to realise how all knowledge is linked to real life. Thus, these projects are motivating and meaningful because of the usefulness of what they learn.

On the other hand, benefits are also reported in civic, social and moral development, as well as in the development of the participants' self-esteem. According to Redondo-Corcobado & Fuentes (2022), these projects not only improve the environment in which they act, but also the individual who carries them out. Self-esteem is enhanced because students receive a positive appraisal from their reference figures, such as the teacher, as well as from the beneficiaries of these actions (Mendía, 2012). Ultimately, Service-Learning develops social awareness because through practical experiences pupils have the opportunity to observe the problems of their community, and motivate them to commit themselves to change it. In this process, their self-esteem and self-confidence is raised, because at the end of the project they have a sense of achievement by solving the community's problem and, as a result, they are positively valued as agents capable of participating in the world around them.

One of the benefits of Service-Learning that is more in line with current European systems is the development of competences. Since pupils learn by doing and discovering things for themselves, they have the opportunity to put into practice what is learnt to see its usefulness. Consequently, they become individuals capable of applying knowledge in various contexts, rather than passive recipients of isolated information.

Lastly, it is worthwhile noting that Service-Learning fosters critical thinking by offering students opportunities to critically analyse the reality in which they are immersed to, not only

identify social problems, but also to act and solve them. As a result, the connection to their community is also strengthened, since they feel responsible for improving it.

Therefore, we can affirm that Service-Learning offers numerous benefits by providing opportunities to put curricular content into practice in order to solve real social problems, so that pupils see school as closely related to the real world. It also promotes meaningful learning through practical experiences in which students are the protagonists, and cooperate with their peers to achieve a common goal. Finally, through critical analysis and reflection upon reality, and the search for solutions, the relationship with the community is strengthened, and students' self-esteem and self-confidence increase.

3.3. Integration of Service-Learning into the CLIL approach

> In line with the action-oriented approach of the CEFR, which contributes significantly to the design of eclectic methodologies, the competence-based nature of this curriculum invites teachers to create interdisciplinary, contextualised, meaningful and relevant tasks, and to develop learning situations based on an integrated treatment of languages where learners are considered as progressively autonomous social agents and gradually responsible for their own learning process, and where their repertoires, interests and emotions, as well as their specific circumstances, are taken into account. (Real Decreto 157/2022)

In accordance with the provisions of Real Decreto 157/2022, in order for students to be able to apply basic knowledge in real communicative scenarios, learning situations must be interdisciplinary, contextualised, meaningful and relevant for students. Furthermore, it envisions the student as an autonomous agent responsible for his own learning and capable of responding to social challenges. Based on these objectives set out in the Foreign Language block of the current educational legislation in Spain, this section will discuss how the integration of CLIL and Service-Learning will contribute to achieving these aims.

To start with, Table 2 shows a comparison of the main characteristics of the CLIL approach and the Service-Learning methodology. The purpose of this table is to identify the main differences between the two pedagogical approaches. In this way, it will later be possible to establish the best way to integrate them in order to maximise the benefits of each individually, as well as to correct the shortcomings previously identified, so that the objectives of the curriculum can be reached.

Table 2

Comparative analysis of the characteristics of CLIL and Service-Learning

	CLIL	Service-Learning
Typology	Approach	Methodology
Integration of elements	Integration of a foreign language and curricular content	Integration of community service and curricular content
Starting point	Selection of content	Awareness of the community problem
Learning	Content, communication, cognition and culture	Content, values and competences
Focus of the learning and means to achieve it	Focus: content Means: language	Focus: service Means: content
Objectives	To learn an additional language and curricular content, and to raise intercultural awareness	To promote civic and values education, to develop social and emotional skills, and to apply curricular knowledge to solve community problems through practical experiences
Competences	Plurilingual competence and interculturality	Competence in linguistic communication Personal, social and learning to learn competence Citizenship competence

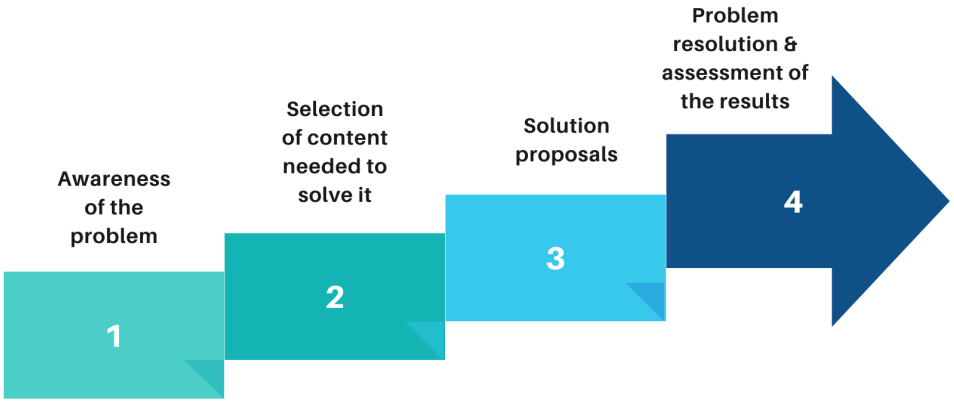
3.3.1. Concrete methodology

To begin with, since CLIL is an approach, there is neither one model nor one methodology of CLIL, but it is flexible to adapt to very diverse contexts (Coyle et al*.,* 2010). Because it is such a broad and general approach, it gives rise to widely varying interpretations among its advocates, and hinders its theoretical and practical usefulness (Cenoz et al., 2013). In other words, no concrete methodologies have been established through which to implement this approach. Consequently, CLIL implementation may hamper its effectiveness and the attainment of its inherent benefits by failing to apply its principles due to the absence of concrete guidelines. For this reason, CLIL would benefit from being integrated into Service-Learning, as the latter does offer a solid methodological framework with explicit steps to be followed in its implementation, such as the ones proposed by Yankelovich (1991). By combining both, educators would have a useful guide for project planning, implementation and evaluation, thus reducing the likelihood of misapplication of CLIL.

Secondly, as mentioned before, Escobar Urmeneta (2019) noted that the starting point of CLIL sessions is the selection of content, whereas in Service-Learning it is the identification of a community problem. If the two were integrated, the first step would be the awareness of the problem affecting the community to which the students belong, followed by the identification of the curricular content they need to master in order to solve the problem. The steps to follow resulting from the combination of both educational proposals can be observed in Figure 4.

Figure 4

Steps in integrated CLIL and SL projects



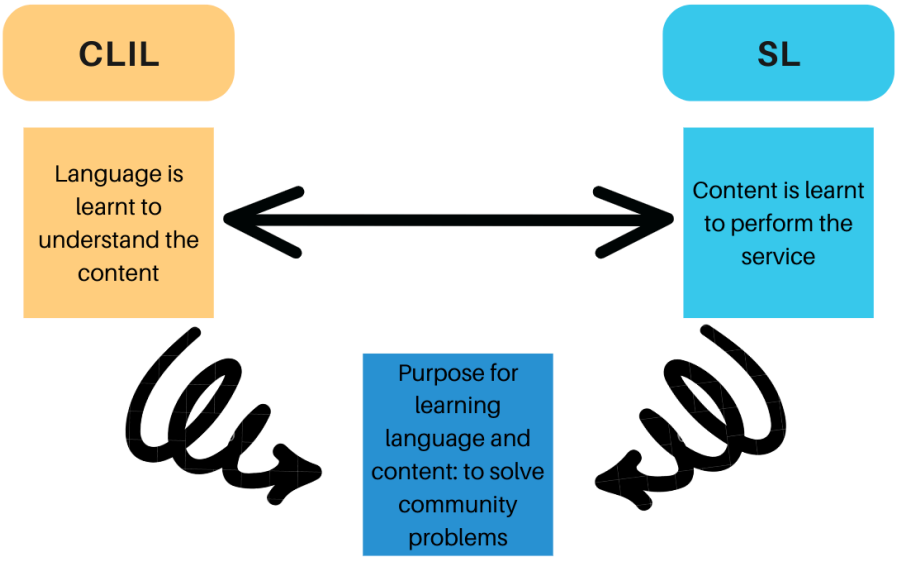
3.3.2. Purpose for learning content and language

The main emphasis in CLIL sessions is on the content, while the foreign language is a means to communicate it (Breeze et al., 2014). Even though in Service-Learning, the focus of learning is not the content but the community service, the content is an essential element of these projects because the learner must first master it in order to solve the problem at hand. In other words, the acquisition of specific knowledge linked to that service becomes the means to perform that service effectively; students train for the service performance through the content (Trilla, 2010). The integration of CLIL and Service-Learning would therefore not be affected, but empowered for the following reasons: to start with, according to Escobar Urmeneta (2019), the exchange of messages between learners in CLIL lessons takes place around academic content. Thus, the target language is learned because of the need to understand the content and to participate in the lessons, as outlined by Breeze et al. (2014). In other words, the purpose for learning the target language revolves around the acquisition and understanding of content, and this is precisely what accelerates language acquisition (Baker & Wright, 2017). As can be observed in Figure 5, by integrating this approach into

Service-Learning, learners would, in turn, have a purpose for learning both the curricular content and for using the new language: to solve the community problem. That is, by integrating the two, learners need to learn the foreign language because the content necessary to solve the community problem is in that language. Therefore, through this integration, students would subconsciously acquire the foreign language as they learn the curricular contents (Renau & Mas Martí, 2018), and they would also unconsciously acquire the contents better because they need them to search for solutions. Also, Breeze et al. (2014) reported that teachers failed to integrate content and language in meaningful ways. Thus, for the above reasons, SL serves as a solution to realise the simultaneous learning of both through voluntary community service.

Figure 5

Purpose for learning language and content in integrated CLIL and SL projects



3.3.3. Application of content to real-life situations

On the other hand, the textbook remains the primary source for teaching both languages and content in many institutions, and learning and progress is measured on the basis of these materials (Harmer, 2015). Although students learn these contents, they are not usually given opportunities to apply what they have learned in real life situations, resulting in the impossibility of establishing connections between what they have learned at school and real life. This contributes to widening the gap between school and everyday life, as students are unable to use what they have learned in everyday situations and hence see the academic content as useless (Widdowson, 1998). This clearly has an impact on motivation because, as pupils see no use of the content beyond the school context, they do not feel the need to learn

it since, as pointed out by Gardner (2000), the desire to learn is a determining factor in the achievement of learning. This shortcoming would be solved by integrating CLIL into SL, because in SL what is learned is applied to solve community problems, as noted by Vázquez (2015). That is, the curricular content is applied to real-life situations, so there is a real purpose for learning it, and learners see the usefulness of learning such content. In fact, Dewey (1930) states that all educational content must reproduce real-life situations for learning to be effective. Thus, thanks to Service-Learning, the learning of the content benefits because it is contextualised and connects to the immediate reality of the learners. The presence of meaningful materials (real community problems) is precisely what increases students' willingness to have meaningful learning, according to Ausubel's study (1976). Furthermore, learning does not appear fragmented, as tends to happen in practice. Rather, students must learn knowledge from different disciplines, being able to form links between them (Vázquez, 2015), since, as Martín (2010) indicates, the needs of everyday life cannot be solved from a single discipline.

3.3.4. Student-centred learning

On the other hand, the learning process in CLIL is composed of four essential elements: content, cognition, communication and culture (Coyle et al., 2010). Indeed, one of the principles of this approach was the importance of students constructing their own knowledge, as underlined by Salaberri & Sánchez (2012). However, the reality is far from this, as a teacher-centred approach still predominates (Coyle et al., 2010), in which the role of the student continues to be the passive acquisition of content presented by the teacher. However, in SL, learners are the ones who produce knowledge, who discover the answers to problems, who are active learners and who offer help to the community, as pointed out by Cairn & Kielsmeier (1991). This point is essential because, as Ausubel highlights, one can remember certain information, but one can only truly understand it if it is discovered for oneself (1976). Thus, the integration of CLIL in this methodology would benefit because learners are responsible for their own learning, but also for improving the life of their immediate environment. In fact, in line with the cognition in CLIL, SL contributes to the progressive development from LOTS to HOTS through scaffolded practices, focusing essentially on the development of the latter. Taking as a reference Bloom's taxonomy revised by Anderson and Krathwohl (2001), in SL students not only remember and understand the content necessary to solve the problem, but they also analyse reality in order to identify the causes of the problem and find solutions. In addition, they must apply what they have learned to take action, creating new knowledge and, finally, evaluate their performance in solving the problem.

Regarding communication, by integrating CLIL and SL, the foreign language would become the vehicle to communicate content-related issues and to solve community problems. According to Renau & Mas Martí (2018), if in CLIL the language itself is learnt by using it to learn academic content, by combining both proposals, while using the curricular content and the target language to solve community problems, students learn both subconsciously and in meaningful ways. In this way, the learning of language and academic disciplines acquires real meaning for the learner by experiencing it through real situations, as Dewey (1930) argued. Moreover, through these practical experiences, learners have the opportunity to use the language in real contexts outside school, something that tends not to occur in CLIL lessons. This increases the quality of language interactions because they reflect natural language use, as opposed to the unrealistic and artificial language sequences that tend to be presented in textbooks (Gilmore, 2004).

3.3.5. Quality of interactions

By combining CLIL and SL, CLIL benefits because SL also increases the quality of interactions between students, since, as Martínez-Odría (2007) suggests, the teacher's role is limited to acting only as a guide and accompanying the learning process. It is the students who must interact with each other to achieve a common goal (Ausubel, 1976). Consequently, communicative and multilingual competence is enhanced, as they use the foreign language to communicate and seek solutions to the problem. Furthermore, as noted by Halbach (2014), CLIL in practice usually focuses on teaching about language rather than on using it pragmatically. Thus, through this interaction between peers to act in problem resolution, the use of target language for functional purposes is encouraged, in line with the objectives set out in the Real Decreto 157/2022 and in the Action Plan of 2022. In addition, the Language Triptych (Coyle et al., 2010) could also be easily integrated into SL practices, as the language of learning would still be those key concepts that learners need to solve the community problem; the language for learning would consist of that needed to discuss, agree or disagree in the search for solutions; and, finally, the language through learning would benefit, because as interactions between learners increase, so will the new language that will naturally appear through learning. Lastly, learning about culture would also benefit from this integration because, as Ting-Toomey and Chung (2012) state, understanding one's own culture serves as a starting point for the appreciation of other cultures. In addition, by performing the service, pupils will interact with people from different cultures and contexts.

3.3.6. Development of competences

Given that in SL, in addition to learning content, values and competences are also developed, this integration contributes significantly to the development of the emerging C of

CLIL identified by authors such as Ball (2016), namely competence. According to Pérez-Ibáñez (2014), information is nowadays immediately available with just a few clicks on an electronic device. Therefore, he argues that more than acquiring information, what is essential is to teach how to use that available information so that students can use it in different contexts to solve problems. Thus, through the integration of CLIL and SL the foreign language and content are applied in real situations to solve community problems. It is precisely this practical application that fosters the development of competences, because given that competence is applied knowledge, it demands spaces for application (Batlle, 2010). In this way, they learn by doing, and develop communicative, plurilingual, personal, social, citizenship and learn to learn competences by putting them into practice, generating learning that is relevant to their lives. Lastly, by integrating both pedagogical approaches, learning acquires a civic sense and community service becomes an opportunity to acquire values (Puig, 2010). Pupils see that the content and the foreign language can be used to improve life in their community. What is more, by addressing social needs, pupils' civic engagement is fostered, as well as the development of values such as solidarity, empathy and justice.

3.3.7.Conclusion on the benefits of integrating CLIL into SL

To conclude, several scholars, such as Renau & Mas Martí (2018) previously pointed out that despite increasing contact hours with the foreign language and lowering the age at which exposure to it occurs, language proficiency remains low. Therefore, in order to achieve a functional proficiency level in the shortest period of time, in response to European language policies (Coyle et al., 2010), the integration of CLIL and SL is presented as the ideal option for this end. Through this integration, pupils learn academic content through the foreign language via community service in meaningful ways. Moreover, they apply knowledge from different disciplines and use the target language in real-life situations. Furthermore, through collaboration with peers and community members, students strengthen ties with their own community and become more sensitive to other cultures. Similarly, students develop their self-esteem and values such as empathy, solidarity and active citizenship. Besides, they are active learners responsible for their own learning and for improving the life of the community who, by learning by doing, develop numerous competences. In fact, through this integration, the development of the following key competences set out in Real Decreto 157/2022 is strengthened: competence in linguistic communication, plurilingual competence, citizenship competence, competence in cultural awareness and expression, and personal, social and learning to learn competence. In short, the integration of both pedagogical proposals offers a higher degree of attainment of objectives compared to their individual implementation, as both complement each other and enhance their strengths.

4. EDUCATIONAL PROPOSAL

The purpose of this section is to provide an educational proposal that integrates Service-Learning methodology into the CLIL approach in order to illustrate the benefits of such integration in the bilingual Primary Education classroom. The design of this project, which is called “Recycling and raising awareness in green!”, is based on the ideas presented in the theoretical framework that have been previously described.

4.1. Introduction

According to the latest report of the European Commission (2022), Spain was one of the European countries that did not meet the proposed EU target for 2020 to recycle at least 50% of municipal waste. For that reason, a waste law was approved in 2022 that aimed to reduce the negative effects of waste generation and management on both human health and the environment (Ley 7/2022). However, despite the adoption of specific measures to combat pollution caused by poor waste management, this situation has not experienced remarkable improvements, since Spain’s annual recycling rate of urban waste is well below the European average, with Spain’s 2022 rate at around 38%, compared to the EU average of 48% (European Commission, 2022). This problem is accentuated in the Community of Madrid, as the most recent report by the Instituto Nacional de Estadística (2023) shows that it was the autonomous community that collected the least amount of waste per capita in 2021. Although waste management and recycling is a problem that has an impact at national and even international level, it can be extrapolated to the school context. The school, being a space open to the reality in which it is immersed, inevitably suffers from the problems that take place there. In fact, we could even affirm that waste management is worsened in schools. Even though environmental care is reflected as a cross-cutting content in Article 11 of Decreto 61/2022, educational institutions do not devise pedagogical strategies that address environmental education for the development of citizenship competences related to environmental care (Paz et al., 2014). Hence, the “Recycling and raising awareness in green!” project has been designed to address the problem of recycling in Primary Education schools, with a special focus on those located in the Autonomous Community of Madrid. Thus, the main objective of this educational proposal is to raise awareness of the importance of recycling among students, as well as to provide them with tools so that they are the ones responsible to improve this situation in the school context. In this way, it contributes to the achievement of goal 12 of the Sustainable Development Goals (SDG) proposed by the United Nations (s.f.) for 2030: “ensure sustainable consumption and production patterns”.

This project is characterised by tackling the problem of recycling from the students’ most immediate environment: the school. If we want students to become critical citizens capable of

solving problems, it is pivotal to provide them with opportunities at school to critically analyse the reality in which they are immersed, and act to improve it. Awareness of the problem will be more effective than if it was presented from its existence in distant countries that do not directly affect the learners, because, taking construct level theory as a reference, the greater the proximity of the individual to a problem, the more favourable are the attitudes and intentions to engage in the search for solutions (Lee et al., 2020). In this way, engagement with both their own learning process and with their participation in the service will be increased, as pupils will be responsible for finding solutions to solve this problem that affects them directly. In fact, one of the operational descriptors of the area of Mathematical competence and competence in science, technology and engineering (STEM) is the transformation of the immediate environment in a sustainable way, assessing its global impact (Real Decreto 157/2022). Thus, through this project, students will acquire the necessary knowledge to not only transform, but also benefit the near environment and be able to make inferences about the impact of this problem at a global level. In other words, although this problem is addressed on a micro scale, students will develop the necessary skills to analyse this social problem on a large scale.

On the other hand, another feature of this project is that by integrating SL into the CLIL approach typical of Madrid's education systems, pupils have a real purpose in learning both the curricular content and the foreign language, which is typically English. Students need knowledge of different disciplines, as well as using the English language to solve the community problem. Although the main focus of the project is the service to be performed, the content is a necessary means for the students to master in order to achieve this aim, and the foreign language is the vehicle in which this content is found. This emphasis on linking knowledge to the students' reality is justified by the need to prepare them for what they will encounter at the end of their schooling. Thus, what they learn at school must be useful for them to be able to put it into practice outside school.

The foreign language used in this proposal will be English, given that Decreto 61/2022 establishes that it will generally be the language in which bilingual areas are taught. The activities described in the following sections will encourage the natural use of the language for functional purposes, especially problem solving. Although the development of functional proficiency will be on both receptive and productive domains, there will be an emphasis on the enhancement of productive skills, given the high level of interactions. Students will interact with peers, teachers, families and community members to solve problems, favouring the formation between the students' microsystem and mesosystem, according to Bronfenbrenner's ecological theory (1994). Hence, this project involves the whole

educational community, there fostering citizenship and values such as empathy, as well as the developing of responsibility for the common good.

Regarding the subjects involved, it is true that priority will be given to the bilingual subjects framed in Decreto 61/2022: Social Sciences, Natural Sciences and Arts. However, the problem of recycling will be approached from all curricular disciplines, because everyday problems cannot be solved from a single discipline (Martín, 2010). Thus, the approach of this project is interdisciplinary, giving learning a global perspective by addressing waste management in a comprehensive way through the interconnection of knowledge from various subjects.

The educational proposal will be implemented in the 5th year of Primary Education, as the objectives set out in Decreto 61/2022 for this cycle are the most suitable for the ones proposed for this project. Furthermore, since children of this age are at the start of concrete operations according to Piaget's cognitive theory, they are more competent in understanding cause-effect relationships and the consequences of concrete actions (1975). This, together with a growing sense of morality and justice, makes them suitably able to understand the importance of participating in services that benefit the community. The project will start on the 17th of May, as during the recycling day there will be an activity that will serve to contextualise it. It is expected to last one month and will be approached from different subjects, but always in an interconnected way. However, the timing will depend on the students' ability to analyse, cooperate and find solutions.

In short, this educational proposal seeks to integrate the SL methodology into the CLIL approach in order to show through a practical experience the ideas developed in the theoretical framework. First, the objectives proposed for the project will be established. Secondly, the key and specific competences to be developed through it will be described. Thirdly, the curricular content of the different areas of the Madrid curriculum will be outlined. Afterwards, a brief analysis of the methodologies involved will be made, before going on to describe the activities that make up this proposal. Lastly, an assessment of the project will be provided in order to evaluate its effectiveness, as well as students' performance on it.

4.2. Project Objectives

As explained in the theoretical framework, we can identify four steps in integrated SL and CLIL projects. Thus, it is sensible to set objectives for each of the phases of this project. These objectives are conceptual, procedural and attitudinal. The conceptual goals are those linked to the acquisition of the contents proposed for the different learning areas, which will be described later on in each of the activities. On the other hand, procedural aims are those

that seek the development of skills and competences connected with the theoretical concepts learned. Finally, the attitudinal objectives focus on the development of values and attitudes.

The following two objectives will be integrated transversally throughout the project: use English to communicate content-matter issues and relate to peers, and apply curricular content to the resolution of the community problem. The rest of objectives set for each of the phases of this project are described in Table 3.

Table 3

Division of the project objectives by phases

Project objectives: "Recycling and raising awareness in green!"	
Phase 1: Problem awareness	- Identify the waste management situation in the local or school community. - Critically reflect on the impact of poor waste management in the local and school community. - Identify recycling as a beneficial practice for the care of the environment.
Phase 2: Selection of content	- Name the most common types of recyclable materials. - Classify different recyclable materials in the corresponding containers. - Understand how knowledge from different disciplines is linked to the issue of recycling.
Phase 3: Solution proposals	- Actively participate in the search for solutions for the improvement of waste management in the local or school community. - Promote recycling practices among members of the local or school community. - Develop feelings of social responsibility and active citizenship through community service. - Develop the skills and competences needed to solve the waste management problem in the local or school community. - Encourage teamwork among students, teachers, families and community members.
Phase 4: Problem resolution	- Evaluate the impact of the project on the community. - Reflect on one's own performance in the project.

4.3. Competences

This section will describe the competences that this integrated SL and CLIL project aims to develop. Nonetheless, only the key competences established by Decreto 61/2022 for the Community of Madrid will be addressed. The decision to focus on the description of only these competences is based on the integral role that these competences play throughout the educational proposal. In other words, given that recycling will be approached from all

curricular areas, these key competences will be inherently developed through the different learning experiences. Although it is true that the specific competences of the different curricular areas will in turn be worked on, the focus on key competences provides a holistic understanding of the educational impact of this project.

Table 4 lists the key competences that this educational proposal aims to develop, as well as the operational descriptors that will enable the subsequent assessment of the acquisition of these competences at the end of this project. The competences have been extracted from Decreto 61/2022, and the operational descriptors have been adapted from this legislation as well to fit in the educational proposal.

Table 4

Key competences to be developed and operational descriptors to assess their acquisition

Key competences	Operational descriptors
Plurilingual competence	CP1. Can use the foreign language effectively, in addition to the familiar language(s), to respond to the communicative needs that emerge in the search for solutions to community problems.
Mathematical competence and science, technology and engineering competence (STEM)	STEM5. Participates in scientifically based actions to preserve the environment, and practices responsible consumption.
Digital competence	CD2. Creates digital content in different formats (text, image, audio, video, software…) using different digital tools to express ideas, feelings and knowledge.
Personal, social and learning to learn competence	CPSAA1. Is aware of own emotions, ideas and personal behaviours, and employs strategies to manage them. CPSAA3. Recognises and respects the emotions and experiences of others, participates actively in group work, assumes individual responsibilities and uses cooperative strategies aimed at achieving shared goals. CPSAA4. Recognises the value of personal effort and dedication to improve their learning and reflects critically on it. CPSAA5. Plans short-term objectives, uses self-regulated learning strategies and participates in self-assessment processes, recognising his/her limitations and knowing how to seek help in the process of knowledge construction.
Citizenship competence	CC2. Participates in community activities, decision-making and conflict resolution in a respectful and dialogic manner, and in the achievement of the Sustainable Development Goals. CC3. Reflects and discusses current ethical values and issues, understanding the need to respect different cultures and to care

	for the environment. CC4. Understands the relationship between human actions and the environment, and is initiated in the adoption of sustainable lifestyles, in order to contribute to the conservation of biodiversity from both a local and global perspective.
Entrepreneurial competence	CE1 & CE3. Recognises needs and challenges to be faced, and creates original ideas and solutions, plans tasks, cooperates with others in teams, valuing the process carried out and the result obtained, in order to carry out an entrepreneurial initiative, considering the experience as an opportunity to learn.

Note: Table created by the author based on Decreto 61/2022

4.4. Contents

This educational proposal will address curricular contents ("knowing"), procedural contents ("knowing how to do") and civic and values education ("knowing how to be"). To begin with, the curricular contents will be drawn from regional legislation, specifically Decreto 61/2022, given that the school is located in the Community of Madrid. The specific contents of each area covered in this project are described in each individual activity in the subsequent sections. The treatment of the contents will have an interdisciplinary approach to provide students with a holistic view of knowledge. In this way, they will understand the interconnection between the different areas of knowledge, and will then be able to apply this integrated knowledge in real-life situations to face challenges. In fact, Real Decreto 61/2022 emphasises the importance of designing integrated curricula that addresses topics in a transversal way.

On the other hand, the procedural contents refer to those skills that students must develop in order to offer the service adequately, such as searching for information, using digital tools or proposing solutions. Lastly, involvement in civic challenges, such as in this case waste management in the community, necessarily entails experiencing values (Gijón, 2010). In fact, SL practices promote the production and transmission of values and attitudes because these are learned by doing, especially if it is a disinterested task that involves a decentring of oneself and is aimed at others (Puig, 2010; Trilla, 2010). Some of the attitudes that will be developed during this project are environmental and civic responsibility, proactivity, collaboration and perseverance. Furthermore, values such as empathy, solidarity, equality, altruism and social cohesion will be promoted.

4.5. Methodology

The methodology used is Service-Learning (SL), which in this project is integrated with the CLIL approach in bilingual schools in Madrid. SL is an innovative active methodology that has been gaining popularity in recent decades, as it regards students as citizens capable of offering services to the community and solving real problems. Moreover, since it is characterised by the simultaneous learning of content, competences and values through community service (Puig, 2010), it is presented as a tool that satisfies the need to train students as social agents capable of dealing with the great challenges of the 21st century. In this educational proposal, the use of a foreign language, in this case English, is added to the previously mentioned integration of learning. Furthermore, SL is defined by its ability to integrate several educational methodologies in order to provide meaningful learning experiences. A brief description of the complementary methodologies employed within this context is given below.

Problem-based learning is an educational strategy that uses a real or fictitious problem to drive the learning process (Azer, 2001), with the problem being the starting point. It gives students an active role in the learning process, as they must autonomously engage in research where they will acquire new academic content linked to the context (De Graaf & Kolmos, 2003) to finally be able to answer the problem or question posed. Particularly in this project, this problem for which students will have to find solutions is the community problem.

Cooperative learning is a methodology which is characterised by the collaboration of peers in pursuit of a common goal. Its current popularity is rooted in the fact that it encourages collaboration and teamwork rather than individuality, thus promoting social cohesion, an essential value for the development of an active and democratic citizenship, as underlined in the European Strategic Framework for Education and Training of 2020 (Ministerio de Educación, Formación Profesional y Deportes, 2020). In the context of this proposal, the common objective is the resolution of the problem of poor waste management in the local or school community.

In experiential learning, the main source of learning is direct sensory experience and participation in contextual actions (Kolb, 2015). Thus, in this project, students learn through direct observation and participation in real problems in their community, and the subsequent search for solutions. In this way, student-centred learning is encouraged, in which pupils become responsible for constructing their own knowledge. The teacher will take on a guiding role, and his or her main task will be to accompany students in their learning process (Jeronen et al., 2009). This guidance, but not direct intervention, in children's learning

promotes their autonomy and integral development, essential skills for them to become active members of the society into which they will be fully launched in a few years' time.

Lastly, reflective learning is a methodology that gives special attention to the process of critically examining an experience in order to improve comprehension of it (Boyd & Fales, 1983). This process is essential for understanding experiential learning processes, as "experience is the basis of learning, but learning cannot take place without reflection" (Colomer et al., 2013, p. 364). Therefore, this pedagogy is especially relevant in this educational proposal, as reflection plays a crucial role at the beginning, during and at the end of SL projects.

4.6. Activities

This section describes the activities that make up this integrated CLIL and SL project that address the issue of waste management in the local or school community. The essence of this educational proposal lies in the vision of social needs as learning opportunities that lead to action for the improvement of the community as well as for a better understanding of the world around us. In the same way, it regards these social problems as opportunities for the development of an active citizenship that contributes to the creation of a fairer and more egalitarian society (Gijón, 2010).

Given that the theoretical framework proposed four phases in the design of this type of integrated projects, activities for each of these stages will be proposed below. Although it is true that most of them will be carried out in the bilingual curricular areas of Decreto 61/2022 (Social Sciences, Natural Sciences and Arts) to respect the principles of CLIL, recycling will be approached transversally from all areas since the contents of all disciplines are needed to solve social problems. In this way, learners will see how all school knowledge is interconnected and applied to real-life situations. A lesson plan of the activities that make up each of the phases of this educational proposal is included in Appendix 1, illustrating how the four elements of CLIL (content, communication, cognition and culture) are worked on in each of the activities.

The activities will be described in a general way, providing only brief descriptions and guidelines on their implementation, as waste management will be different in each local or school context. In other words, these activities should be adapted not only to the specific situation present in each community, but also to the students who will participate in this project.

To begin with, after completing the first phase of identification and awareness of the problem, it is proposed that during the whole project and even at the end of it, a monitoring campaign be set up. To this end, the students in the group will be divided into pairs, and each week one

pair of students will be in charge of making sure during breaks that their classmates deposit their waste in the corresponding containers that will be placed in the school areas. They will wear green waistcoats so that the school community can quickly identify and approach them in case they have any doubts about how to recycle a particular waste. If they see a classmate committing an infraction, such as throwing waste on the ground, they will write it down in a notebook and inform the group's tutor so that he/she can proceed to sanction this individual. As a suggestion, this measure should be implemented at least one week after the start of the project, so that students have sufficient knowledge on how to guide the local or school community in good recycling practices.

4.6.1. Phase 1: Identification and awareness of the problem

4.6.1.1. Investigation of the recycling situation in the school / local context.

The first phase of this project consists of the identification by students of the recycling problem in the local or school community. To do this, on the occasion of recycling day, pupils will be asked to carry out a kind of "treasure hunt". They will have to visit the different areas of the school (entrance, playground, classrooms, dining room…) or neighbouring areas, and write down on the worksheet (see Appendix 2) the situation observed with regard to waste management in each of these areas. In other words, students will carry out an investigation by observing how waste management is being carried out in the school or local community. In short, this is a diagnostic phase to assess the extent of the problem in the immediate context.

Through this activity, students are introduced to processes of enquiry and hypothesis formulation, which helps them to question, discover, explain and better understand the world around them (Wale & Bishaw, 2020). The development of the worksheet also responds to the assessment criteria proposed for the "scientific culture" block of the Natural Sciences area: students interpret and explain events occurring in their environment (recycling in their school/ local community) through observation; they identify and classify types of waste; and they look for patterns at local level, extrapolating later in group reflection to the situation of recycling at a global level (Decreto 61/2022). On the other hand, by completing this research worksheet, students employ mathematical strategies such as counting in an everyday situation. The development of such activities is crucial, as mathematical activities form an essential part of people's daily lives and, indeed, the theory of everyday cognition argues that individuals perform better in these everyday situations than in formal contexts (Rampal, 2003). Furthermore, this need to link academic knowledge with its application in everyday life is emphasised in current educational legislation. In fact, one of the stage objectives of Primary

Education is to develop basic mathematical competences and to be able to apply elementary operations of calculation and estimation in everyday situations (Real Decreto 157/2022).

In order to carry out this tour of the school, students will be organised into groups of 5 people. As a recommendation for those schools with sufficient resources, it is suggested that pupils can take photographs of the pollution observed in these spaces to raise awareness of the problem. Moreover, this new generation of learners has been born in a digitally rich era and interacts with new technologies naturally and on a daily basis. Therefore, their needs as learners have changed compared to past decades, and this should have an impact on curriculum guidelines as well (Matos et al., 2019). Thus, by introducing digital devices such as cameras or tablets for taking pictures, learning is adapted to their lifestyles, making it more accessible, relevant and motivating.

It is relevant to note that in the appendix the author has provided only the model that would be provided to in investigations carried out at schools, but it can always be adapted in case this investigation is developed in the surroundings or where requested by the local community.

4.6.1.2. Initial reflection.

After completing the worksheet, a guide (see Appendix 3) is provided for the teacher to lead a group discussion. The aim of this activity is to promote critical analysis and reflection on the recycling situation in the school or community. After an objective observation of this situation, students are asked to express their opinions about this problem. In this way, it will be possible to evaluate their initial attitudes of respect towards the environment and to promote reflection on individual practices of care for it. In addition, it will facilitate the formation of connections between the recycling situation at the local and global level. Lastly, students' opinion will be taken into account regarding their wish to participate in the project, as well as their initial ideas about solution proposals. It should be noted that at this stage pupils are not yet ready to propose solutions, as they have not yet acquired the necessary curricular knowledge to do so. Nevertheless, it is positive to ask these questions in order to later evaluate the acquisition of knowledge, and to see how the solutions they propose are more appropriate.

Additionally, it is worth mentioning that since the debates demand more elaborate language, students are expected to make mistakes in the use of the foreign language, and even use the native language on certain occasions to express themselves fully. In fact, one of the contents of the block of "communication" in the Foreign Language are of the curriculum is "Self-confidence. Error as a tool for improvement as part of the learning process" (Real Decreto 61/2022, p. 80). This discussion would facilitate the use of "strategies and

techniques to compensate for communicative deficiencies (...) to respond effectively to a specific need, despite the limitations arising from the level of competence in the foreign language" of the "plurilingualism" block of the Foreign Language area of Decreto 61/2022 (p. 89).

4.6.1.3. Students' initial assessment to determine content selection.

In order to facilitate the design of activities for the next phase, it is suggested that the teacher develops an initial assessment to determine the students' prior knowledge of recycling. A model of assessment for this purpose is presented in Appendix 4. After analysing the results, the teacher will be able to justifiably determine what knowledge the students need to master to be able to solve the problem and, based on this, design the activities to achieve this goal. Ultimately, this procedure allows for a more individualised selection of content, which maximises the understanding of the problem at hand, and makes the subsequent search for solutions more effective.

4.6.2. Phase 2: Selection of content

In this phase, the teacher makes a selection of content from different disciplines that students must master, and designs activities for them to acquire it and become competent to solve the problem. As mentioned in the theoretical framework, it is crucial that students master the content, as the service will lose quality if it is disconnected from knowledge (Puig, 2010). Although it is the educator who determines what knowledge is relevant, it is the students who are in charge of their learning process. During the development of the activities, the teacher acts only as a guide, creating the necessary conditions to facilitate the discovery of knowledge, as well as the development of skills and attitudes through scaffolded practices. Whilst it is true that the design of these activities depends on the results of the initial assessment of the learners in the previous phase, the following are some ideas for activities to address recycling in a cross-curricular way.

4.6.2.1. Foreign Language (English).

The activity, which is called "Eco-challenge: waste sorting", will be approached from the area of Foreign Language (English). Instruction will focus on the use of basic vocabulary of interest to pupils, as part of the "communication" block. In the context of this project, the names of the waste observed in phase 1, as well as the names of the containers, are relevant for the students as they need to know them in order to improve the recycling situation of their community. The expression of existence (to be; there is/there are), of capacity (can/can't) and affirmative and negative sentences of the block "syntactic-discursive contents" (Decreto 61/2022, p. 90) are also approached.

For the development of the activity, two types of flashcards will be designed. On the one hand, flashcards with the names of the most common types of waste that were observed in the investigation in phase 1 and, on the other hand, flashcards with pictures of this waste (see Appendix 5). The aim is for learners to learn key vocabulary about recycling, as the more vocabulary the language learner acquires, the better their communication will be (Azabdaftari & Mozaheb, 2012). In other words, once they learn these key terms, they will be better able to communicate their ideas in the foreign language. Therefore, this activity aims to provide them with the necessary knowledge of recycling vocabulary so that they can manage correctly in the communicative situations that will naturally develop throughout the project. This will contribute to the development of communicative competence in the foreign language.

First, these flashcards will be placed on the blackboard, and the pupils will have to associate the image with its written name in English. In this way, they will gradually become familiar with the English names of these waste products. Then, taking advantage of the fact that children learn naturally through the process of enquiry present in games (Parker et al., 2022), a game will be played in which they will have to classify the waste. For this purpose, the four most common types of containers (plastic, organic, glass and paper/cardboard) will be placed in the classroom. The pupils will be divided into groups of five students, and they will have to place the image of the waste in the corresponding container. The development of this game is justified by the importance of adapting the learning process to children's natural way of understanding the world. This idea is supported by Nilsson et al. (2018), who note that "children's engagement with the world is predominantly focused on play and exploration, not instructional adult-child interactions" (p. 232). There is a tendency to remove play from the school context because it has traditionally been perceived as an entertainment activity that is not directly related to formal learning. However, since learning is also a result of play (Nilsson et al., 2018), this game is presented as a suitable method to increase students' motivation while acquiring curricular knowledge.

4.6.2.2. Mathematics.

The activity "Looking at the world through graphics" will be developed in Mathematics class. The following content, from the "organisation and analysis of data" of the "statistics and probability" block, will be addressed: the representation of data by means of simple statistical graphs and the selection of the most suitable one (Decreto 61/2022, p. 104).

Since visual displays are used to communicate important information (Galesic & García-Retamero, 2010), the objective of this activity is to represent the data collected in the investigation phase using tables and bar charts. As defined by Bavdekar (2015), tables are

an arrangement of numbers and words distributed in parallel columns, which are used to present information. Because of this layout, they are the ideal choice for presenting large amounts of information that would be difficult and confusing to describe in a text (Bavdekar, 2015). In other words, in groups of 5, pupils create tables in which on the one hand they list the name of the waste and, on the other hand, the number of times it has been observed in each school area. Afterwards, they elaborate a bar chart, as this tool allows them to read the quantitative information more easily. At a glance, they will be able to quickly identify which waste is the least recycled in each area of the school. In short, thanks to these mathematical data collection techniques, students will be able to display this information more visually and draw relevant conclusions. Once they have identified which are the most repeated waste products, they can start to think about measures on how to reduce waste consumption of those.

To conclude, this activity contributes to the development of “plurilingual competence” and “mathematical competence and competence in science, technology and engineering (STEM)” established in Decreto 61/2022.

4.6.2.3. Natural Sciences.

This activity, which is called “Plastic seas”, aims to develop specific competence 6 of the Natural Sciences area of Decreto 61/2022: “to identify the causes and consequences of human intervention in the environment to seek solutions and act in their resolution, promoting respect, care and protection of people and the planet” (p. 27). In order to achieve this goal, an experiment is proposed. The conduction of this experiment is justified by the need for students to understand marine pollution as a direct consequence of human action. Since the experiments ensure internal validity, conclusions can be drawn about the causal effects of one variable on another (Ross et al., 2005).

The objective of the activity is to raise awareness of the environmental impact of plastic in the sea caused by human activity. To do this, the teacher will take a large transparent container, fill it with water and place plants and marine animal toys inside to simulate marine life. Then, he/she will introduce plastic waste, such as bags, bottles or cans, symbolising the pollution caused by humans. Hence, students will see that waste remains floating in the water and does not decompose. In fact, they come into contact with marine animals and plants, seriously damaging or even killing them. To emphasise that this waste does not disappear, but remains floating, oil can be used, taking advantage of its chemical properties. If the teacher pours oil into the water, a layer will form on top of it, which neither integrates with the water nor decomposes. In other words, the oil symbolises the waste that is poured into the sea and that harms every living thing that comes into contact with it. Moreover, since the

water has neither smell nor colour, when the oil is poured into the water, the students will realise that the “waste” changes both the smell and the natural colour of the water. As a suggestion, it is highly recommended that the teacher asks questions at the beginning, during and at the end of the experiment to promote critical analysis of the human impact on the environment. In this way, students will reflect on the natural situation of the seas and will be able to compare it with that resulting from human pollution, to ultimately think about proposals for prevention of this pollution. This contributes to the “conscientization” proposed by Freire, in which students critically analyse social problems and promote transformative actions by seeking solutions (2014). A teacher’s guide to conduct this process of critical analysis and reflection is included in Appendix 6.

Through the elaboration of this experiment, the contents, skills and attitudes of “initiation in scientific activity” of the “scientific culture” block of this legislation will be worked on. The main content is the “importance of caring for the planet” (Decreto 61/2022). This will be made explicit by introducing pupils to the stages of scientific research, through observation, formulation of questions and hypotheses, and analysis of results. They will also use basic scientific vocabulary related to research. Lastly, these experiments will encourage curiosity in conducting investigations. Additionally, this activity contributes to the development of the following key competences of Decreto 61/2022: “plurilingual competence”; “citizenship competence”; “personal, social and learning to learn competence”; and “mathematical competence and competence in science, technology and engineering (STEM)”.

4.6.2.4. Social Sciences and Foreign Language (English).

In this activity, which is called “Recycle radar”, an analysis will be made of recycling campaigns. Measures to promote recycling in other countries will be addressed first, followed by a discussion of advertisements on recycling. As the activity has two phases, an objective is drawn from each of them. The first aim is to learn about measures to promote recycling in other countries. Although each country has its own rules and conventions, they all experience similar problems, as in this case waste management. It is therefore interesting to approach intercultural education from this perspective because, as all countries face the same problems, it seems coherent to work together to solve them. In fact, intercultural education arises as a need to achieve transformative attitudes from school through collaboration, tolerance and respect for the diversity of different countries (Paredes, 2016). Thus, this activity will facilitate students’ understanding of different recycling practices around the world, promoting an appreciation of these cultures. By introducing them to these international practices, they will also acquire skills to collaborate in intercultural contexts, which is essential to function in an increasingly globalised world. The second objective is to analyse how language is used persuasively to influence society’s behaviour.

To start with, the teacher will make a selection of those countries whose recycling situation best fits the needs of the project. In this case, the author of this project has decided to choose Finland. The teacher will tell the students that in this country, in order to promote recycling, there are machines in supermarkets in which to place plastic bottles and cans. The reward for recycling them is financial, as citizens receive a discount on their next purchase at the supermarket. After a discussion to discover the students' opinions on this measure and its possible application in the Spanish context, students will be asked to look for interesting recycling campaigns in other countries using ICTs. Given that students spend most of their time surrounded by digital information, it is imperative that they are given opportunities at school to evaluate the usefulness, relevance and value of the information they find online, and learn how to use it (Wallace & Kupperman, 1997). After students have spent about 25 minutes looking for and taking notes on the measures, they will be shared with the whole class to open a discussion on their possible effectiveness in the school context.

In the second phase, different advertisements published in social media and on television on recycling awareness will be examined. This type of text uses rhetorical structures and linguistic devices to persuade the reader to act in a certain way (Labrador et al., 2014). Therefore, this activity is justified by the need for students to develop critical thinking skills by questioning the information present in advertisements. In other words, they are provided with the necessary tools to understand persuasive rhetoric and thus be able to identify manipulations in the use of language. In addition, by presenting them with multimodal texts, they will realise that information can be conveyed through different formats (texts, images, etc.). For the development of the activity, students will be placed in a semicircle in front of the projector, and images of these advertisements will be shown. The teacher will ask questions to students to trigger reflection on the effect of these advertisements on the population, as well as on the use of language. A teacher's guide with sample questions to achieve this aim is included in Appendix 7.

As can be observed, contents and specific competences from different curricular disciplines are addressed. In the area of Social Sciences, work is done on the content of "social and environmental responsibility. Relationship between people, societies and natural environment" (p. 41), framed with "societies and territories" block of Decreto 61/2022. Moreover, two specific competences are covered. One of them is "to identify the causes and consequences of human intervention in the environment, (...) to seek solutions and act in their resolution, promoting respect, care and protection of the planet" (Decreto 61/2022, p. 42), since recycling campaigns are a measure to solve the consequences of human activity in the environment. The other specific competence refers to "recognising and valuing plurality, showing empathy and respect for other cultures in order to contribute to the

improvement of society" (Decreto 61/2022, p. 42). In the area of languages, collaboration between English and Spanish language teachers is highly encouraged to maximise learning. The role of English in this activity is essentially for communicative purposes. However, through the analysis of advertisements, the textual typologies and communicative intention of the "communication" block of Spanish Language and Literature are also addressed, as well as specific competence 4: "Understand and interpret written and multimodal texts, recognising the overall meaning, main ideas and explicit and implicit information" (Decreto 61/2022, p. 66). Finally, in the area of Technology and Robotics, the content "How the network works. Basic rules for the safe and efficient use of resources" (Decreto 61/2022, p. 123) is covered, thus contributing to specific competence 5, which refers to a safe and responsible use of technological resources. For these reasons given, this activity contributes to the development of the following key competences of Decreto 61/2022: "competence in linguistic communication", "plurilingual competence", "digital competence", "personal, social and learning to learn competence" and "competence in cultural awareness and expression".

4.6.2.5. Physical Education and Mathematics.

At this stage of the project, the students will have sufficient knowledge about the recycling topic. Hence, this activity, called "Recycling relay", is proposed as a review of some of the content previously covered. For this purpose, a team relay race will be held, as this game favours the development of motor skills and strength (Talaghir et al., 2017; Fenanlampir, 2021). The students will be divided into two large groups, and placed in a line. At the starting point, each team will have different types of waste (fruit peels, cans, newspapers, jam jars…). In another line on the opposite side, about 10 metres away, each team will have four rubbish containers (plastic, organic, glass, paper/cardboard). When a whistle is blown, one member of each team must pick up one of the waste products, say its name aloud in English, run to where the containers are located and place it in the appropriate one. Then, they will return to the starting point, shake hands with their teammate and the procedure will continue in this way until all members have participated. Therefore, this activity encourages the development of motor skills such as motor coordination through running, agility through changing directions, and speed. For that reason, specific competence 2 of the area of Physical Education of Decreto 61/2022 is addressed:

> To adapt the elements of the body scheme, physical, perceptual-motor and coordination capacities, as well as motor skills, applying processes of perception, decision and execution, in order to respond to the demands of motor projects and motor practices with different purposes in everyday contexts. (Decreto 61/2022, p. 62)

At the end of the game, in mathematics class, the aim is for students to use the number data that can be extracted from the previous game to cover the specific content of this subject. Real-life contextualised activities facilitate the development of connections between mathematics and its application in everyday life (Clarke & Roche, 2018), so that pupils realise that this discipline helps to make sense of the world. In fact, this is emphasised in mathematics specific competence 1: “Interpret everyday situations by providing a mathematical representation of them using concepts, tools and strategies to analyse the most relevant information” (Decreto 157/ 2022, p. 100). Students will count the number of waste items in each container. Afterwards, they will again make bar charts and tables to collect this information visually. It is also proposed that they make approximations and rounding of this data. Finally, they will have to do operations, such as multiplication or division, with the number of waste items in each container. An example of this last task is the following: “Multiply the number of waste items in the yellow container by the number of waste items in the blue one”. Through this activity, the following contents of the Mathematics area of Decreto 61/2022 will be worked on: “Various counting strategies (...) in everyday situations” (p. 101), from the “counting” block; estimations and approximations, framed in the “quantity” block; and, lastly, “strategies to recognise which simple or combined operations (addition, subtraction, multiplication, division) are useful to solve contextualised situations” (p. 102), from the “operations” block. All these contents are framed in the main block of “numbers and operations”.

4.6.2.6. Arts.

This activity, which is called, “eco-friendly collages”, consists of making a collage using the waste found in the school. According to the definition offered by Cran (2016), collage is an artistic technique in which papers and different objects are glued juxtaposed on a surface. Students will probably be familiar with this procedure thanks to the Spanish painter Picasso. However, this project proposes an approach to this technique from the perspective of a Brazilian artist: Vik Muniz. The works of this painter became popular thanks to the transformation of waste from one of the largest landfills in Brazil into works of art. After observing the deplorable situation in which the landfill workers were living, he decided to transform the rubbish they were surrounded by into art and donate the money raised. Thus, thanks to the work produced by this author, a practical example of one of the 3Rs, reuse, is provided. Students will realise that waste can also be reused to create art, even though these objects tend not to be associated with artistic activity. Likewise, they will discover that one of the functions of art is to encourage social transformation (Milbrandt, 2010). Although pupils are probably more acquainted with art as a means to explore one’s own feelings (Reid, 1966), it is important that they discover that art can also have an instrumental function. It is

essential to get this idea across to students, as they may consider art as a suitable option for proposing improvements to the problem in which their community is immersed.

In order to carry out this activity, Vik Muniz and examples of his works will first be presented, explaining the reasons that led to their creation. After this, students will be divided into five groups, and each group will be distributed to a different table. On each of these tables, different types of waste that have been found at school will be placed. Students will be asked to make a collage using waste, following Vik Muniz's example. However, creativity will be encouraged, as there will be no guidelines for making them. Pupils can express their emotions through the collage, or denounce the problem that the school is experiencing, addressing the two functions of art that they know so far. In addition, the contents of "artistic works (...) of different aesthetic currents, origins and periods produced by international creators (...)" (p. 52) and the creative process, of the blocks "reception and analysis" and "creation and interpretation" of the area of Plastic and Visual Education (Decreto 61/2022) are addressed. In the same line, specific competences 1 and 3 are covered: "To discover artistic proposals of different genres, styles, periods and cultures, to develop curiosity and respect for diversity" (p.51) and "to express an communicate ideas, feelings and emotions in a creative way (...) to produce one's own works" (p. 51).

Finally, this activity contributes to the development of the following key competences of the Madrid curriculum: "citizenship competence" and "competence in cultural awareness and expression" (Decreto 61/2022). By approaching interculturality from Muniz's work, students are invited to reflect on the social reality in which certain populations live immersed. This promotes social awareness and critical analysis of reality, as his paintings inspire reflection on social injustices and how to build a more equitable world. Furthermore, the use of everyday materials of these Brazilian citizens can lead to discussions on how Muniz challenges traditional artistic conventions to help the citizens of his country.

4.6.3. Phase 3: Solution proposals

At this stage, students have already acquired knowledge of various disciplines through the English language, and developed skills, competences and attitudes linked to recycling and care for the environment. They are therefore ready to propose solutions to improve the waste management situation in their local community or school. The essence of this phase is that pupils take on the role of active agents to improve their community (Martín, 2010). It is therefore up to them to use all the tools with which they have been equipped throughout the project to propose solutions. These solution proposals depend on the context in which the problem is dealt, as well as on the students who participate in the project, since each group of pupils has specific characteristics, and the learning that is drawn can be different, too.

The students of Nuestra Señora del Lucero school (Madrid) proposed the creation of a rap to raise awareness among the school community about recycling and thus improve the waste pollution situation in their school. It was created by using an artificial intelligence (AI) application: SunoAI. Following the growing popularity of ChatGPT over the past year, the students found an AI tool to create songs. For its elaboration, they first decided on the key words they had learnt during the project, such as: recycling, environment, reuse, sustainability, pollution, waste, etc. Then, they agreed on the message they wanted to convey through the song, which in this case was to raise awareness about the importance of recycling at school and teach the school community how to do it. Afterwards, they wrote the prompt with this information and entered it into the AI application. In just a few seconds, this tool created several songs. They listened to all the options and chose the one that best suited their goals and interests. This music-making process offers emotional benefits as well, since children feel great freedom and happiness, which makes them enjoy their creative activity (Volchegorskaya & Nogina, 2014). Besides, the creation of songs reflects an authentic use of language (Ludke, 2019).

It is undeniable that we are surrounded by technological devices all the time and that they influence the way we communicate, interact and behave with each other. These digital tools are rapidly progressing, as has been witnessed with the emergence of an increasing number of AI tools. AI also has an impact on the educational context, as it has the potential to reshape the way teachers and learners engage in learning, improving its quality and promoting more personalised learning (Negoiță & Popescu, 2023). Not only is this learning more individualised, but it is also more adapted to the profile of today's learners.

In short, the virtual era in which we are immersed demands digitally competent individuals who know how to make appropriate and responsible use of new technologies. Therefore, rather than being seen as a risk, AI should be regarded as a tool that makes life easier and whose potential allows maximising the benefits of the learning process. Indeed, it makes sense to introduce this virtual tool in the education context to prepare students for an AI-led future (Negoiță & Popescu, 2023).

Through this activity, students developed specific competence 4 of the Technology and Robotics area of Decreto 61/2022: "Know and value the possibilities of artificial intelligence to act with machines or systems in a way that facilitates work and gradually improves it" (p. 122). Moreover, they worked on the following content of the block "artificial intelligence": "use of simple computer applications for computers and mobile devices and introduction to artificial intelligence" (Decreto 61/2022, p. 123). Likewise, through the elaboration of the song, they also covered the content: "Computer applications for (...) recording, reproduction, improvisation and creation of works" (Decreto 61/2022, p. 52), framed in the block "music

and performing arts" of the area of Music. For all these reasons, the activity proposed by the students served to enhance the following key competences: multilingual competence; mathematical competence and competence in science, technology and engineering (STEM); personal, social and learning to learn competence; citizenship competence; and entrepreneurial competence (Decreto 61/2022).

4.6.4. Phase 4: Problem resolution and assessment of the results

This phase involves the implementation of those measures proposed by the students in the previous phase to solve the problem. In the case of the students from Nuestra Señora del Lucero school, they gathered the whole school community in the assembly hall to present their song, and explain its message about the importance of recycling in their school to put an end to present pollution. In addition, the recycling rap became the song played over the school loudspeakers at the beginning and end of the school day. The objective of this measure was to foster internalisation of the message, as through daily exposure to the song, the message becomes ingrained in the listeners (Lieberman, 2012).

Once these have been implemented, a final process of reflection has to be followed to evaluate the results of the project and the students' involvement in it. This last reflection, both individually and together, is vital, as it gives meaning to the service and optimises the knowledge learned (Rubio, 2010). In fact, authors such as Martín (2010) argue that there is no educational experience if it has not been reflected upon, otherwise one does not understand how it has contributed to their learning. Therefore, this process enriches the awareness of two essential elements that are integrated into these projects: community service and curricular learning. To begin with, it encourages analysis of the impact that the students' actions have had on their community. However, this process also facilitates awareness of the why and wherefore of the knowledge and skills developed during the project, with the consequent evaluation of whether or not these have enabled them to provide a quality service (Martín, 2010). In addition to understanding how the content of the various disciplines has enabled them to solve the problem, through this reflection they will also become aware of the values involved in their actions (Martín, 2010). Finally, given that this is an integrated SL and CLIL project, and that the vehicular language is English, in this phase the pupils will be able to reflect on the use they have made of the foreign language for communicative purposes in real situations.

A combined approach of quantitative and qualitative methods will be used to evaluate this project. On the one hand, questionnaires will be used to collect information on the opinions, attitudes and satisfaction of students and community members in a standardised way. However, although this quantitative data provides valuable information, open-ended

questions will also be included in the questionnaires to obtain qualitative information about participants' reflections and experiences. In addition, more specifically with regard to the qualitative evaluation methods used, participant and descriptive observations will also be carried out. In participant observations, the evaluator immerses himself in naturalistic settings and observes and/or takes part in the activities of the people being studied to gain a holistic understanding of the phenomena and individuals under study (DeWalt & DeWalt, 2011; Kawulich, 2005). Thus, the collected data emerges from the interactions, behaviors and practices of the observed participants. On the other hand, descriptive observations consist of observing everything about participants and the activities in which they are immersed to get an overall impression (Franklin & Jordan, 1995). These participant and descriptive observations will serve as a basis for the teacher to establish the assessment criteria for the rubrics.

The teacher will have two assessment tasks. On the one hand, he/she will have to make a self-assessment of his/her own performance as a guide in students' learning-process (see Appendix 9). It will be evaluated whether the way in which the project and the content was presented was sufficiently meaningful to awaken in the students attitudes of readiness for meaningful learning, based on Ausubel's theory (1976). Whether the selection of content has been appropriate for students to solve the community problem, or the integration of CLIL in SL, among others, will be assessed as well. On the other hand, a rubric is also provided for the teacher to use to assess the quality, creativity, connectedness of ideas and depth of connection between the content, foreign language and service of the students' solution proposals (see Appendix 10). However, as this project consists of a process through which students progressively develop knowledge, skills, attitudes and competences, through a foreign language, teachers' observations during the whole process will also be taken into account.

Another component of the evaluation of this project is the completion of a rubric to assess the impact of the project on the community (see Appendix 11). Students will also carry out a self-assessment using a rubric that seeks quantitative and qualitative information (see Appendix 12). Through it, they will reflect not only on their own learning outcomes, but also on their own performance in the project, or on their use of the foreign language, among others.

5. CRITICAL REFLECTION

5.1. Level of fulfilment of the objectives and competences

At the beginning of this paper, some general and specific objectives were established, which were expected to be achieved through the elaboration of this Final Degree Project. Similarly, it was also intended that this work would respond to the competences of the Bachelor's Degree in Primary Education Teacher, so that the contents corresponding to the different subjects that make up this degree would be made visible. The following section will therefore analyse whether these purposes have been achieved.

The general objectives set out in section 2.1. have been met, as they have been taken into account in the elaboration of the whole document. To begin with, the objective related to the integration of the Bachelor's Degree competences has been amply met, as can be seen in section 5.4. In addition, a transversal content, such as recycling, has been worked on with an interdisciplinary approach, covering content from all curricular areas and materialising the different didactic strategies acquired in the degree to maximise learning. Furthermore, I consider that the elaboration of this dissertation, which is in line with the expected level for final year students, has contributed to enhance my reflective, critical and scientific thinking. Not only have I reflected on the possible benefits of SL and CLIL integration, but I have also critically analysed the existing literature in order to describe how this integration could be crystallised in bilingual public schools. Therefore, I firmly believe that I have made appropriate use of the ICTs specific to the teaching profession. I have used them to theoretically justify my subsequent educational proposal, applying critical evaluation skills to ensure the rigorousness of the content. Moreover, I have carried out an analysis of the latest technological advances in AI in order to design activities that employ these tools in the educational proposal. For all these reasons, I believe that during the elaboration of this document my communication skills have been fully improved.

Likewise, the specific objectives designed by the author of this paper in section 2.2. have been fulfilled. At the outset, it was noted that the main motivation for choosing this topic for my dissertation was that the CLIL approach tended not to provide learners with opportunities to use the foreign language in real-life situations. SL was therefore identified as a methodology that helps to solve this problem, as well as to enhance the benefits of the approach. Thus, in the theoretical framework, the CLIL approach and the SL methodology were analysed individually to identify similarities and shortcomings. This made it possible to describe how the two could be combined, while respecting the principles of each, to provide meaningful learnings in which pupils use language and apply curricular content in real contexts, while playing an active role in society. These ideas were crystallised in the

development of an integrated SL and CLIL project, in which the topic of recycling and waste management was addressed in an interdisciplinary way and served to foster most of the competences set out in Decreto 61/2022.

Lastly, all the general competences of the degree have been taken into account when drafting this document, as can be seen in section 5.4. With regard to the transversal competences, the impact of audiovisual languages has been worked on in the education proposal briefly. However, a strong emphasis has been placed on sustainable development, on the mutual influence between science, society and technological development, and on citizenship behaviours for a sustainable future. School situations in multicultural contexts have also been considered, given that the integrated SL and CLIL project necessarily involves collaboration between students and community members who come from very diverse contexts. On the other hand, I consider that I have been able to communicate my ideas well, and that the use I have made of ICTs has contributed to adapting my project to the educational needs of 21st century students. For all these reasons, I can affirm that thanks to the independent elaboration of this dissertation, my autonomous learning has been favoured.

5.2. Limitations of the study and future directions

In the course of writing this dissertation, I have encountered a number of limitations, which need to be briefly described in order to point out possible improvements. To begin with, there are no studies on how to integrate CLIL and SL, which has required a thorough analysis and comprehension of the two separately in order to establish how they could be integrated for mutual benefit. In addition, as it was necessary to first analyse the CLIL approach and the SL methodology separately in order to identify shortcomings and commonalities and thus establish ways of integration, the planning of the theoretical framework was also a challenge. Another major challenge was the elaboration of the lesson plan which is included in the annexes, as I wanted to show how the four components of CLIL (content, cognition, communication and culture) are worked on in each of the activities of the educational proposal. Despite the large amount of time and space it took to design it, I consider that I have succeeded at capturing in a very schematic and visual way the elements of the activities that make up each of the phases of the project, as well as the integration of CLIL in them. The last problem I experienced during the elaboration of this project was my limited time availability, which was worsened by the addition of the internship report preparation and other professional commitments. This resulted in my inability to hand in all the agreed sections on the dates set by the tutor.

On the other hand, I would like to point out some limitations of the educational proposal. To start with, it has been designed taking as a reference the educational legislation of the Autonomous Community of Madrid, so it may need to be slightly modified when extended to another territory. Moreover, it may be difficult to implement in the early years of Primary Education, as foreign language proficiency at this age is still very limited. Although the project contributes to its improvement given the numerous communicative opportunities it offers, it is true that a more advanced knowledge of the language is required to participate in it.

Finally, as future directions, it would be interesting to carry out a longitudinal study of the project developed for the educational proposal in order to check its sustainability and its long-term effects. It would also be relevant to design plans to teach educators how to conduct SL and CLIL integrated projects, as teacher training is essential for the effectiveness of these projects.

5.3. Conclusions and personal reflection

Current educational policies demand proficient individuals who function in several languages and who know how to apply knowledge in order to face the great challenges of the 21st century (Council of the European Union, 2002; Real Decreto 157/2022; Decreto 61/2022). However, CLIL, which is the approach used in 40.9% of Spanish schools for the integrated teaching of foreign language and content (La Moncloa, 2023), fails to achieve these objectives. Evidence of this is that, even though this approach increases foreign language contact hours, the scores of Spanish learners in OECD-designed tests such as PISA still remain below average (OECD, 2023). This is due to the misapplication of CLIL in the classroom, as in practice pupils are not given opportunities to use the target language or to apply the content learned in real contexts. Thus, CLIL would benefit from being integrated into methodologies that promote meaningful learning such as SL, in which students apply academic content and develop competences through community service.

In the theoretical framework a thorough search of CLIL and SL separately was conducted, drawing mainly on the ideas discussed by Coyle et al. (2010) and by the precedents of SL, such as Dewey (1930), Etzioni (1999), Freire (2014), Pestalozzi (1885; 2003) and Ausubel (1976). The purpose of first conducting this separate study was to identify shortcomings, similarities and possible ways of integrating the two approaches. In section 3.3. it was concluded that through CLIL and SL integration, learners use the foreign language in real contexts to communicate with peers and community members for pragmatic purposes. Hence, real use of the language is reflected regardless of the presence of errors. In this line, learners have a real purpose for using the foreign language, but also for learning the curricular content: to solve the community problem. In addition, content of various disciplines

is applied to real-life problem solving, so knowledge acquires real meaning and students see that what is learned at school is also useful outside it. Besides, they are active learners responsible for their own learning and for improving the life of the community who, by learning by doing, develop numerous competences. This constant collaboration with peers and community members promotes the strengthening of ties with their own community, and the development of sensitivity towards other cultures. What is more, students develop their self-esteem and values such as empathy, solidarity and active citizenship by actively contributing to solving social problems. In essence, it was justified by drawing on current literature how SL solves the problems arising from the misapplication of CLIL, and how CLIL serves to enhance the benefits of SL. Finally, in section 4, an integrated SL and CLIL project was designed to crystallise the ideas outlined above and to illustrate its practical application in bilingual primary school contexts in the Community of Madrid.

In short, the main idea that can be drawn from this dissertation is that the integration of CLIL in SL projects offers a higher degree of attainment of objectives compared to their individual implementation, as both enhance their strengths and address each other's shortcomings.

Last but not least, I consider that I have shown a great capacity for synthesis and integration of all the knowledge, skills and competences developed throughout the Degree in Primary Education. In the course of writing this document, I have learned significantly from the connections I have made between CLIL and SL, respecting the principles of both, but helping to enhance their benefits. For this reason, I also feel that I have made a significant contribution to the educational community. This integration is in line with the European objectives of educating competent citizens who function in several languages, and who apply knowledge in diverse scenarios to respond to the great challenges of the 21st century. All in all, this final degree project has been a challenge, but at the same time it has been a quite rewarding experience both personally and professionally.

5.4. Linking of the degree competencies within the dissertation

General degree competencies:	Section in the TFG:	References-information sources	
		Primary sources	Secondary sources
CG1. To know the evolutionary process in the biological and physical development of children of 6 – 12 years.	3.1.5. 3.2.2.2. 3.2.2.5. 4.1.	Piaget (1975) 18, 40 Vygotsky (1978) 18 Ausubel (1976) 27 Brofenbrenner (1986) 28, 39	
CG2. To understand the learning processes related to the 6 – 12 year-old child.	1 3.1.4. 3.1.5. 3.2.1. 3.2.2.2.	Erickson & Anderson (1997) 6, 30 Gardner (2000) 16, 18, 35 Krashen (1982) 16 Bower et al. (2020) 17 Widdowson (1998) 18	

General degree competencies:	Section in the TFG:	References-information sources	
		Primary sources	Secondary sources
	3.2.2.5. 3.2.2.7. 3.2.3. 3.3.2. 3.3.3. 3.3.4. 4.1. 4.6.2.1. 4.6.4.	Vygotsky (1978) 18 Wood et al. (1976) 18 Renau & Mas Martí (2018) 19, 34 Dewey (1930) 23 Pestalozzi (2003) 25 Ausubel (1976) 26, 27, 35 Harmer (2015) 27 Martínez-Odría (2007) 28 Piaget (1985) 29 Furco (2010) 30 Stukas et al. (1999) 30 Martín (2010) 30 Baker & Wright (2017) 33 Lee et al. (2020) 39 Parker et al. (2022) 49 Nilsson et al. (2018) 49 Lieberman (2012) 57	
CG3. To know the foundations, principles and characteristics of Primary Education.	1 3.1.1. 3.1.2. 3.1.5. 3.2. 5.3.	La Moncloa (2023) 5, 12, 61 OECD (2023) 5, 61 Dalton-Puffer et al. (2010) 10, 11 Renau & Mas Martí (2018) 11, 12 Baker (2017) 11, 21 European Commission, Directorate-General for Education, Youth, Sport and Culture (2006) 11 Breeze et al. (2014) 21 Fuentes et al. (2022) 22	
CG4. To design, plan and evaluate the teaching-learning process in the framework of the school as an educational organization.	1 3.1.3. 3.1.4. 3.2.2. 4.5. 4.6.4.	Puig (2010) 6, 25 Eurydice (2023) 8 Cummins (1984) 13 Bloom (1956) 13 Anderson & Krathwohl (2001) 13, 20 Meyer (2010) 17 Azer (2001) 44 Kolb (2015) 44 DeWalt & Dewalt (2011) 58 Kawulich (2005) 58 Franklin & Jordan (1995) 58	
CG5. To analyse the importance of social factors and their impact on educational processes.	1 3 3.1.1. 3.1.3. 3.2. 3.2.1. 3.3.6. 4.1. 4.4.	Vallance (2015) 5, 8 Council of the European Union (2002) 5, 9, 61 Coyle et al. (2010) 5, 8 Bower et al. (2020) 5 De la Cerda et al. (2010) 5 Real Decreto 157/2022 (2022) 5 Decreto 61/2022 (2022) 5 Baetens (2011) 9 Salaberri & Sánchez (2012) 9	

General degree competencies:	Section in the TFG:	References-information sources	
		Primary sources	Secondary sources
	4.5. 4.6. 4.6.2.4. 4.6.3. 5.3.	Ball (2016) 15 Palmero (2008) 22 Fuentes et al. (2022) 22 Martínez-Odría (2007) 22 Jagla & Tice (2019) 22 Etzioni (1999) 24 Freire (2014) 24 Pérez-Ibáñez (2014) 37 Instituto Nacional de Estadística (2023) 38 United Nations (s.f.) 38 Gijón (2010) 43 Ministerio de Educación, Formación Profesional y Deportes (2020) 44 Gijón (2010) 45 Wallace & Kupperman (1997) 52 Negoiță & Popescu (2023) 56	
CG6. To know and apply techniques for the collection of information through observation or other types of strategies in research, evaluation and innovation processes.	1 3.1.2. 4.6.2.2. 4.6.4.	OECD (2023) 5, 12 Galesic & García-Retamero (2010) 49 DeWalt & Dewalt (2011) 58 Kawulich (2005) 58 Franklin & Jordan (1995) 58	
CG7. To understand tutorial action and guidance in the educational framework in relation to students and development contexts.	3.2.2.3. 3.3.4. 3.3.5. 4.5.	Martínez-Odría (2007) 27, 36 Ausubel (1976) 27 Coyle et al. (2010) 35 Jeronen et al. (2009(44	
CG8.1. To design didactic strategies appropriate to the nature of the specific scientific field, starting from the Primary curriculum, for the area of Experimental Sciences.	4.6.1.1. 4.6.2.3. 4.1.	Paz et al. (2014) 38 Wale & Bishaw (2020) 46 Ross et al. (2015) 50	
CG8.2. To design didactic strategies appropriate to the nature of the specific scientific field, starting from the Primary curriculum, for the area of Social Sciences.	3.2. 3.2.1. 3.2.2. 4.6.2.4. 3.2.2.5. 3.2.2.6. 3.2.3. 4.6.	Fuentes et al. (2022) 22 Dewey (1930) 23 Etzioni (1999) 24 Freire (2014) 24 Pestalozzi (2003) 25 Puig (2010) 25 De la Cerda et al. (2010) 26 Trilla (2010) 26 Furco (2010) 26 Martínez-Odría (2007) 28 Martín (2010) 30 Gijón (2010) 45 Paredes (2016) 51	
CG8.3. To design didactic strategies appropriate to the	4.6.6.1. 4.6.6.2.	Rampal (2003) 46 Galesic & García-Retamero (2010) 49	

General degree competencies:	Section in the TFG:	References-information sources	
		Primary sources	Secondary sources
nature of the specific scientific field, starting from the Primary curriculum, for the area of Mathematics.	4.6.2.5.	Bavdekar (2015) 49 Clarke & Roche (2018) 54	
CG8.4. To design didactic strategies appropriate to the nature of the specific scientific field, starting from the Primary curriculum, for the area of Language and Literature.	1 3 3.1.1. 3.1.2. 3.1.4. 3.3.1. 3.3.2. 3.3.5. 4.6.2.1. 4.6.2.4.	Bower et al. (2020) 5, 9 Eurydice (2023) 8 Otto & Cortina-Pérez (2023) 9 Escobar Urmeneta (2019) 9, 10, 13, 19, 33 Baetens (2011) 9 Coyle et al. (2010) 9, 10, 12, 14, 15, 19, 32 Renau & Mas Martí (2018) 10, 11, 15 Cenoz (2015) 10 Klewitz (2021) 11 Dale & Tanner (2018) 11 Baker & Wright (2017) 15 Gilmore (2007) 17 Halbach (2014) 36 Azabdaftari & Mozaheb (2012) 49 Labrador et al. (2014) 52	
CG8.5. To design didactic strategies appropriate to the nature of the specific scientific field, starting from the Primary curriculum, for the area of Musical Education.	4.6.3.	Volchegorskaya & Nogina (2014) 56 Ludke (2019) 56	
CG8.6. To design didactic strategies appropriate to the nature of the specific scientific field, starting from the Primary curriculum, for the area of Plastic and Visual Education.	4.6.2.6.	Cran (2016) 54 Milbrandt (2010) 54 Reid (1966) 54	
CG8.7. To design didactic strategies appropriate to the nature of the specific scientific field, starting from the Primary curriculum, for the area of Physical Education	4.6.2.5.	Talaghir et al. (2017) 53 Fenanlampir (2021) 53	

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7. INDICES

7.1. Table index

7.2. Figure index

8. APPENDICES

8.1. Appendix 1: Lesson plan and integration of the CLIL elements

<table>
<tr><th colspan="8">Teaching context</th></tr>
<tr><td>No. of students
25</td><td colspan="2">School
CEIP Nuestra Señora del Lucero</td><td>Grade
5th Primary</td><td>Topic
Recycling</td><td colspan="2">Length of Educational Proposal
1 month approx.</td><td>English Proficiency Level
A2</td></tr>
<tr><th colspan="8">Sessions</th></tr>
<tr><th colspan="8">Phase 1: Identification and awareness of the problem</th></tr>
<tr><th>Name activity</th><th>Time + Steps</th><th>Groupings</th><th>Materials</th><th rowspan="6">CLIL elements</th><th rowspan="2">Content</th><th>Knowledge</th><td>Recycling & parts of the school</td></tr>
<tr><td rowspan="5">1.Investigation of the recycling situation at school</td><td rowspan="5">45 min
1.Observation of different school areas to analyse the recycling situation at school

2.Complete the worksheet</td><td rowspan="5">Groups of 5 students</td><td rowspan="5">Worksheet
Camera / tablet</td><th>Skills</th><td>Speaking, listening, reading & writing
To observe the recycling situation at school
To complete the worksheet on recycling research</td></tr>
<tr><th rowspan="3">Communication</th><th>Language of learning</th><td>Recycling keywords & parts of the school</td></tr>
<tr><th>Language for learning</th><td>Language for describing
Language for discussing</td></tr>
<tr><th>Language through learning</th><td>Language through peer interaction</td></tr>
<tr><th>Cognition</th><td colspan="2">To evaluate the recycling situation at school
To understand that school pollution is a consequence of not recycling</td></tr>
</table>

					Culture	To understand how recycling culture impacts their school	
2.Initial reflection	45 min 1.Topic introduction & formulation of questions 2.Participation in the group discussion 3.Conclusion of main points	Whole class	Teacher's question guide	**CLIL elements**	**Content**	**Knowledge**	Recycling & parts of the school
						Skills	Speaking & listening To identify waste pollution as a problem in the school
					Communication	**Language of learning**	Recycling keywords & parts of the school
						Language for learning	Language for discussing Language for answering questions Language for describing Language for expressing one's own opinions
						Language through learning	Language through group reflection and exchange of ideas
					Cognition	To analyse the recycling situation at school To understand that school pollution as a consequence of not recycling To evaluate one's own recycling practices To compare the pollution situation at school due to the absence of recycling practices with the wider society	
					Culture	To explore recycling attitudes and practices at school and in the wider society	
3.Students' initial assessment	45 min 1.The teacher reads the	Individual	Questionnaire	**CLIL elements**	**Content**	**Knowledge**	Recycling & care for the environment
						Skills	Reading & writing To answer questions related to recycling

	questions aloud to solve possible doubts 2.Students answer the questions						To synthesise one's own ideas about recycling
					Communication	**Language of learning**	Recycling keywords (types of waste, containers, etc.)
						Language for learning	Language for answering questions Language for expressing one's own opinions Language for describing
						Language through learning	Language through writing one's own reflections
					Cognition	To evaluate one's own knowledge of recycling	
					Culture	To understand how recycling culture impacts the environment	
Phase 2: Selection of content							
1.Eco-challenge: waste sorting	45 min 1.Place flashcards of the most common waste on the blackboard 2.Associate the pictures of the waste with their written	Groups of 5 students	Flashcards 4 containers	**CLIL elements**	**Content**	**Knowledge**	Names of different types of waste and of the main containers
						Skills	Reading, speaking & listening To classify different types of waste in the appropriate container
					Communication	**Language of learning**	Waste vocabulary (plastic bottle, can, leftovers…) & name of containers
						Language for learning	Language for expressing existence (to be; there is/ there are) Language to express capacity (can / can't) Language for affirming or denying

	names in English 3.Classify the different waste in the appropriate container by groups						Language for interacting with peers Language for engaging in games
						Language through learning	Language through peer interaction
					Cognition	To remember the names of different types of waste and of the main containers To apply recycling techniques to complete the game	
					Culture	Culture is not addressed	
2.Looking at the world through graphics	1h15min 1.Explanation of tables and bar charts (steps, aim) 2.Elaboration of tables to list the name of the waste and the number of times observed 3.Elaboration of bar charts to quickly identify the least recycled waste at	Groups of 5	Notebook Pencils Ruler Compass	**CLIL elements**	**Content**	**Knowledge**	Representation of quantitative data through tables and bar charts Names of different types of waste & school areas
						Skills	Speaking, listening & writing To design tables and bar charts to represent the data collected To identify which waste is the least recycled in each school area
					Communication	**Language of learning**	Vocabulary related to tables and bar charts Different types of waste vocabulary
						Language for learning	Language for describing the steps in the design of tables and bar charts Language for interpreting information
						Language through learning	Language through tables and bar charts elaboration

	school				**Cognition**	To create tables and bar graphs to represent quantitative data To read quantitative data through tables and bar charts To draw relevant conclusions from tables and bar charts To remember the name of different types of waste	
					Culture	To understand how culture influences recycling practices at school	
3.Plastic seas	45 min 1.The teacher places water, animal toys and plants in the container (sea). 2.Reflection questions 3.The teacher introduces plastic waste in the water 4.Reflection questions 5.The teacher introduces oil in the water. 6.Reflection questions	Whole group	Large transparent container Water Marine animal toys Plants Plastic waste	**CLIL elements**	**Content**	**Knowledge**	Plastic pollution in seas and oceans due to human activity
						Skills	Listening & speaking To distinguish the natural situation of the seas from that resulting from human pollution
					Communication	**Language of learning**	Plastic waste vocabulary Vocabulary related to seas (eg. animals)
						Language for learning	Language for making hypothesis Language for conducting experiments
						Language through learning	Language through discussion and exchange of ideas
					Cognition	To understand sea pollution as a consequence of human actions To think of measures to prevent sea pollution To make hypotheses on pollution of the seas	
					Culture	To understand how cultural attitudes towards plastic use pollute the seas	

4.Recycle radar	1h30min 1.The teacher explains a Finnish measure to promote recycling 2.Students search for other international campaigns on the Internet 3.Ideas are shared to open a group discussion 4.Recycling advertisements are analysed	Whole group & individual	Tablets	**CLIL elements**	**Content**	**Knowledge**	Other countries' measures to promote recycling & the use of rhetorical structures in recycling advertisements
						Skills	Reading, writing, speaking & listening To search for measures to promote recycling in other countries on the Internet To analyse the messages conveyed in advertisements
					Communication	**Language of learning**	Recycling keywords Names of countries
						Language for learning	Language for discussing Language for searching information on the Internet
						Language through learning	Language through online information search Language through group discussion
					Cognition	To evaluate the relevance of online information To analyse how language is used persuasively to influence people To question the information present in advertisements	
					Culture	To learn about other countries' recycling practices to promote intercultural collaboration	
5.Recycling relay	45 min 1.Students, divided in two groups, must pick up waste	2 groups (1st part) Groups of 5 students (2nd part)	Different types of waste Four rubbish containers	**CLIL elements**	**Content**	**Knowledge**	Name of waste items and containers
						Skills	Speaking & listening & writing To design tables and bar charts to collect information To do operations with everyday items

	products, name them, and place them in the appropriate container 2.Pupils count the number of waste items in each container 3.Students make tables and bar charts to collect this information 4.Pupils make operations, approximations and roundings with this information						To run and change directions
					Communication	**Language of learning**	Waste items and containers vocabulary Vocabulary related to tables, bar charts & operations (multiply, divide)
						Language for learning	Language for counting Language for describing the steps in the design of tables and bar charts Language for interpreting information Language for doing operations
						Language through learning	Language through games Language through peer interaction
					Cognition	To remember the names of different types of waste and of the main containers To apply recycling techniques to complete the game To create tables and bar graphs to represent quantitative data	
					Culture	Culture is not addressed	
6.Eco-friendly collages	45 min 1.The teacher presents Vik Muniz and his collages. This technique is explained. 2. The	Individual	Waste items Coloured cardboards Glue	**CLIL elements**	**Content**	**Knowledge**	Vik Muniz's paintings Arts as tool for social transformation 3Rs practices (recycle, reuse, reduce)
						Skills	Speaking & listening To reuse waste to create collages
					Communication	**Language of learning**	Name of waste items Artistic terms (artwork, texture…)

	teacher explains that Muniz reused waste to create art, and that art was used to transform social reality. 2.Pupils create their own collages					**Language for learning**	Language for creating artworks (cut, stick…) Language for following instructions Language for selecting materials Language for expressing ideas, emotions & purposes
						Language through learning	Language through ideas sharing Language through peer interaction
					Cognition	To combine different elements to create collages To plan how to make the collage To reflect on one's own ideas and feelings	
					Culture	To know international artists and their artworks To reflect on the social reality in which certain Brazilians are immersed	
Phase 3: Solution proposals							
Eco-warriors rap	60 minutes 1.Students agree on recycling keywords & message they want to convey 2.Pupils write the prompt on SunoAI	Whole class	Computer AI software (SunoAI)	**CLIL elements**	**Content**	**Knowledge**	The use of AI tools to create songs Recycling keywords
						Skills	Speaking, listening & writing To use SunoAI to create a rap that fosters recycling at school
					Communication	**Language of learning**	Recycling keywords Language related to AI tools (eg. prompt)
						Language for learning	Language for agreeing/disagree with peers Language for discussion Language for sharing of ideas Language for expressing preference

	3.Students listen to all the song options and choose the one that suits best their goal					**Language through learning**	Language through peer interaction Language through Internet use
					Cognition	To remember recycling keywords To select the most important keywords and song options according to demands To understand that AI can be used to create songs	
					Culture	To understand the impact of AI on culture and society	
Phase 4: Problem resolution & assessment of the results							
Final reflection	45 min Students complete a questionnaire made of quantitative and qualitative questions to reflect on their learning outcomes, performance in the project and use of the foreign language.	Individual & group	Rubrics Questionnaires	**CLIL elements**	**Content**	**Knowledge**	Revision of all recycling content, skills, attitudes and competences covered
						Skills	Reading & writing To integrate all the learning to answer the questionnaire
					Communication	**Language of learning**	Recycling vocabulary (eg. waste items & containers)
						Language for learning	Language to answer questions Language to describe
						Language through learning	Language through reflection
					Cognition	To assess and reflect on one's own learning and performance in the project	
					Culture	To reflect on the role of recycling in one's own and other cultures	

8.2. Appendix 2: Investigation of the recycling situation in the school

Investigation of the recycling situation in the school environment	
Observations	
Playground	General description of this area (clean, contaminated, etc.):
	Number of containers:
	Condition of containers (clean, full, dirty, etc.):
	Recycling problems identified:
	Types of waste observed (specify typology and number):
	Type of waste most frequently generated:
Teacher's room	General description of this area (clean, contaminated, etc.):
	Number of containers:
	Condition of containers (clean, full, dirty, etc.):
	Recycling problems identified:
	Types of waste observed (specify typology and number):
	Type of waste most frequently generated:
Dining room	General description of this area (clean, contaminated, etc.):
	Number of containers:
	Condition of containers (clean, full, dirty, etc.):
	Recycling problems identified:
	Types of waste observed (specify typology and number):

	Type of waste most frequently generated:
Entrance	General description of this area (clean, contaminated, etc.):
	Number of containers:
	Condition of containers (clean, full, dirty, etc.):
	Recycling problems identified:
	Types of waste observed (specify typology and number):
	Type of waste most frequently generated:
Classrooms	General description of this area (clean, contaminated, etc.):
	Number of containers:
	Condition of containers (clean, full, dirty, etc.):
	Recycling problems identified:
	Types of waste observed (specify typology and number):
	Type of waste most frequently generated:
Others: _____	

Reflections
● What surprised you most about the recycling situation in the school? ● How do you feel about this situation? ● Do you think that waste management at this school is a problem? ● Do you think it is important to improve the recycling situation in our school? Why?

8.3. Appendix 3: Teacher's guide on questions to guide the initial reflection process

Teacher's guide	
Identification of the problem in the school / local community	● Do you consider the school / street / park to be polluted? Why? Was the rubbish placed on the ground or in the bins? ● Which areas of the school are most polluted? ● What are the most common types of rubbish that you found?
Attitudes of care for the environment and linking the problem to one's own practices	● How did you feel when you saw the polluted areas? ● What do you do to prevent environmental pollution? Do you recycle? How?
Extrapolation of the problem to the wider society	● Do you think that this problem you have observed in the school / local community also occurs globally? ● Is pollution a human problem? Why do you think people choose to throw rubbish on the ground when there are bins? ● Why is it necessary to recycle and what are the consequences of not doing so? ● What impact does rubbish have on the environment?
Student participation in the search for solutions	● What could we do to reduce the amount of waste at school? ● Would you like to help the school / local community in waste management and solve this problem? ● What measures could we take to encourage recycling in our school / community?

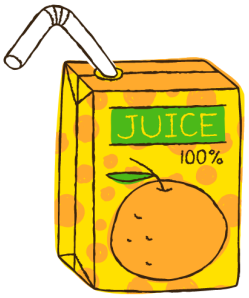
8.4. Appendix 4: Students' initial assessment to determine content selection

Initial assessment to determine content selection
1. Define the following terms in your own words: ● Recycling: ● Reuse: ● Sustainability: ● Pollution: ● Biodegradable: ● Global warming:
2. Do you think recycling is important? Why / why not?
3. Name three benefits of recycling for the environment and health:
4. In which container do you throw organic waste?
5. What kind of waste should be taken to a recycling centre instead of the usual containers?
6. What happens to waste that is not recycled properly?
7. What challenges does our society face with regard to recycling?
8. How does recycling help reduce pollution and care for the environment?
9. Do you recycle? Specify the number of containers in your home and how you use them
10. Have you ever been involved in recycling activities? If yes, describe your experience:
11. What would you like to learn about recycling?

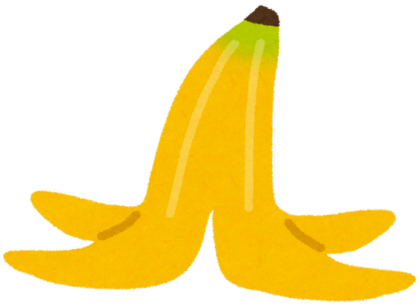
8.5. Appendix 5: Vocabulary flashcards examples

Plastic bottle

Juice brick



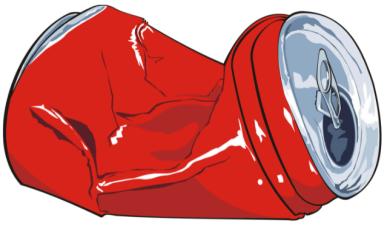
Banana peel



Apple leftover

Plastic bag

Can



Paper

Cardboard box

8.6. Appendix 6: Teacher's guide to conduct the reflection process of the experiment

Teacher's guide	
Before the experiment	● What does the sea look like? Describe it. ● Are seas and oceans this clean in this day and age? Why / why not? ● What would happen to the water if waste is thrown?
During the experiment	● What difference can you see between this situation and the initial one? Do you observe any change? ● How does waste get there? ● Is pollution a human consequence? ● What does the water look like? How does it smell?
After the experiment	● Do you know how long it takes for plastic to decompose? ● What happens if everyone throws plastic into the sea? ● What impact does rubbish have on plants and aquatic animals? ● What can we do to prevent water pollution?

8.7. Appendix 7: Teacher's guide to promote critical analysis of recycling advertisements

Teacher's guide	
Use of language	● Which word/sentence catches your attention the most? Do you think there is a specific reason why these words/sentences were chosen? ● Do you identify any technique that tries to persuade the reader? Which one? ● Is statistical data included in the advertisement? Why do you think this data is used?
Effectiveness of the advertisement	● What do you think the advertisement wants to convey? ● What is the role of the images in the advertisement? Do they enhance the intended message? ● Do you think this advertisement is effective in influencing people's behaviour? Why/why not? ● Would you change anything about the advertisement? Specify what.

8.8. Appendix 8: Teacher self-evaluation

Teacher self-evaluation			
Criteria	**Unsatisfactory**	**Acceptable**	**Excellent**
Content selection	The selection of content has not served to solve the community problem, nor is it aligned with the project's objectives.	The selection of content has partially contributed to solving the community problem, and is partially aligned with the objectives of the project.	The selection of content has fully contributed to solving the community problem, and is fully aligned with the project objectives, in addition to having been meaningfully presented.
CLIL integration in SL	The integration of the foreign language has been superficial, and has not facilitated the learning of content, skills, competences and attitudes.	The integration of the foreign language has been adequate and has facilitated the learning of content, skills, competences and attitudes on most occasions.	The integration of the foreign language was excellent and maximised the learning of content, skills, competences and attitudes.
Implementation of SL	The connection between community service and curricular content has not been clear nor relevant to the achievement of the objectives.	The connection between community service and curricular content has been clear and relevant to the achievement of the objectives, but was not approached from different disciplines.	The connection between community service and curricular content has been clear and highly meaningful, in addition to having worked on content from different areas.
Planification and organisation	Project planning is disorganised and deficient.	Project planning is well organised, but the progressive acquisition and development of knowledge, skills, attitudes and competences could be improved.	Project planning is well structured and encourages the acquisition and progressive development of knowledge, skills, attitudes and competences.
Materials and resources	The materials and resources selected are not adequate to address the content and	Most of the materials and resources are appropriate and	All materials and resources are highly appropriate and suitable

	objectives of the project.	suitable for the age of the class, and in general address well the contents and objectives of the project.	for the age of the class, and address the contents and objectives of the project excellently.
Relationship with students & community	There has been a failure to foster student-community collaboration and to act as a guide for students to foster their autonomy.	Student-community collaboration has been fostered, but there are improvements in the teaching role of guiding students to foster their autonomy.	Student-community collaboration has been highly fostered, and the guiding role of the teacher has contributed greatly to the promotion of student autonomy.
Assessment of students' learning	Assessment methods are not appropriate for measuring student learning and analysing the impact of the project on the community.	Assessment methods are effective and provide valuable information on student learning and on the impact of the project on the community.	Assessment methods are effective and provide valuable information on student learning and on the impact of the project on the community.
Reflection and future improvements	There has been no reflection on one's own performance, nor have areas for improvement been identified.	A detailed reflection on one's own performance has been carried out, but no areas for improvement have been identified.	A detailed, in-depth and critical reflection on one's own performance has been carried out, identifying areas for improvement in one's own teaching practices and in the project, as well as planning specific actions for such improvement.

8.9. Appendix 9: Teacher evaluation of students' solution proposals

Evaluation of students' solution proposals			
Criteria	**Unsatisfactory**	**Adequate**	**Excellent**
Quality of the proposal	The proposal is vague or incoherent, and does not address the problem adequately.	The proposal is coherent and addresses the problem adequately, but could be more elaborated.	The proposal is coherent, addresses the problem effectively, and provides a well-developed solution.
Presentation and clarity	The presentation of the proposal is confusing, lacks clarity and the ideas are not organised.	The presentation of the proposal is clear, but the organisation of ideas could be improved.	The presentation of the proposal is clear and the ideas are well organised.
Content, language and service connection	The connection between the academic content, foreign language and community service of the proposal is superficial.	The connection between the academic content, foreign language and community service of the proposal is good, but could be improved.	The connection between the academic content, foreign language and community service is deep and meaningful.
Connection of ideas from different areas	The proposal does not integrate knowledge from different curricular areas.	The proposal integrates some knowledge from different curricular areas.	The proposal integrates knowledge from different curricular areas, showing a strong interdisciplinary understanding.
Creativity	The proposal is not creative or innovative in the presentation of ideas or in solving the problem.	The proposal shows an adequate level of creativity in the presentation of ideas and in solving the problem, but is not innovative.	The proposal shows a high level of creativity and innovation in the presentation of ideas and in solving the problem.
Viability	The proposal is unrealistic, or difficult to implement given the context or resources available.	The proposal is realistic, but may present challenges in implementation.	The proposal is realistic and feasible to implement given the context and resources available.
Impact	The proposal has no potential impact on the resolution of the community problem.	The proposal has limited potential impact on the resolution of the community problem.	The proposal has significant potential impact on the resolution of the problem, broadly benefiting the community.

8.10. Appendix 10: Evaluation of the project's impact on the community

Evaluation of the project's impact on the community			
Criteria	**Unsatisfactory**	**Adequate**	**Excellent**
Waste reduction	There is no reduction in the amount of waste in the community.	There is a moderate reduction in the amount of waste in the community.	There is a significant reduction in the amount of waste in the community.
Increased recycling practices	No increase in the amount of recycled materials is observed.	A moderate increase in the amount of recycled materials is observed.	A significant increase in the amount of recycled materials is observed.
Behavioural change	Few members of the community have shown a favourable change towards following recycling practices.	A notable number of the community has shown a favourable behavioural change towards following recycling practices.	The majority of community members have shown significant behavioural change towards following recycling practices.
Recycling knowledge	The community shows limited or no knowledge of correct recycling practices (e.g. not knowing which container to put waste in)	The community shows adequate knowledge and applies recycling practices correctly on most occasions.	The community shows a high level of knowledge and applies recycling practices correctly and recurrently.
Environmental impact	There are no significant visible changes in cleanliness and waste management in the community.	There are some visible changes in cleanliness and waste management in the community.	Significant changes in cleanliness and waste management are observed in the community.

8.11. Appendix 11: Students quantitative and qualitative evaluation

Students self-evaluation					
1. Mark how much you agree using the scale below (1- strongly disagree, 2- disagree, 3- neither agree nor disagree, 4-agree, 5-strongly agree).					
	1	**2**	**3**	**4**	**5**
I found the contents of the project interesting and necessary to solve the community problem.					
I learned a lot about the topics addressed in the project.					
Thanks to the project, I have realised how the different curricular areas are related.					
I was able to apply knowledge from different curricular areas to solve problems in this project.					
The activities designed by the teacher contributed to the acquisition of content, competences, skills and attitudes relevant to the project.					
I used the foreign language during the project and improved my skills.					
I felt comfortable using the foreign language to communicate during the project.					
The community service was meaningful in the project.					
I consider that my actions had a positive impact on the community.					
I am more socially responsible after participating in the project.					
I am more prepared to be an active citizen after participating in the project.					
I care more for the environment after participating in the project.					
I felt positive emotions during the project (joy, pride, empathy).					
I felt negative emotions during the project (sadness, anger, frustration).					
The project helped me to reflect on my values and to develop other values such as empathy or solidarity.					
My teamwork skills were improved thanks to this project.					
I developed new skills in the use of digital tools during the project.					

2. Answer the following questions:
Write down two measures you have learned to promote recycling in your community:
Is recycling important for the care of the environment? Why/ why not?
Describe a situation in which you found the use of the foreign language challenging, how you overcame it and how you felt:
What impact do you think your participation in the community has had?
How did participating in the project make you feel? Describe your emotions.
Describe an experience where you felt that teamwork was necessary to overcome a problem. What did you learn from your peers?
What did you like most about the project? And the least? What could be improved?
Describe the project in one word: