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CLIL teachers' materials: Science-textbook's evaluative template

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Abstract (250-400)

The textbook is an object which is present in almost all classrooms. Moreover, in the majority of cases, it is the basis of the student's learning process. Teachers spent most of the time in class using the textbook, which provides them with guidance, activity design and multiple resources Although disadvantages can be found in the textbooks' usage, it is certain that they are still used a lot in teaching, mostly in subjects in which the language used is not the students' mother tongue, as it is the case in bilingual education. For this reason and in terms of CLIL methodology, a textbook evaluation process is needed in order to better attain the CLIL fundamentals, the learning goals and the target group needs.

Bearing the aforementioned reasons in mind, this study's main objective is to create a CLIL Science evaluation template to attend one of the reasons mentioned above: the CLIL fundamentals. Therefore, the present study's template lays its basis on Coyle's 4C's framework and the main features this theory implies (the Language Triptych, Bloom's taxonomy, BICS and CALP, intercultural awareness...). Moreover, in order to attain the main objective, an analysis among three CLIL textbooks evaluation template is carried out in this study. Besides, the final template is applied to three different CLIL Science textbooks from 3rd grade level aiming to validate the template.

In consequence of the fact that textbooks' usage often relies on teachers' own teaching manner and objectives, the final template aims to be a useful tool to analyse and evaluate CLIL Science textbook focusing on the 4C's framework in order to choose the most effective one or to better know its strengths and weaknesses.

Keywords: textbook, CLIL, 4C's framework, evaluation template.

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1. INTRODUCTION

1.1. Justification of the research question and problem

Recently and due to a, day by day, more globalised world, the need to prepare citizens with a minimum proficient level in at least one foreign language has arisen. For the latter reason, approaches such as CLIL (Content and Language Integrated Learning) have become more popular and less dispensable in European schools. Despite the fact that CLIL is not a new methodology, it has been given more relevance during the last 15 years. Therefore, its short and recent implementation in schools results in scarcity of materials on which teachers could rely (Coyle, Hood & Marsh, 2010).

In Spain, as in other European countries, there has also been the necessity to incorporate the CLIL approach in schools with the aim of providing more hours of significant foreign language input. Moreover, doing so makes schools promote multilingualism, according to current European policies (Eurydice Report, 2006).
CLIL term stands for Content and Language Integrated Learning and, although several authors have given their own definition of the term, it refers to "a dual-focused educational approach in which an additional language is used for the learning and teaching of both content and language" (Coyle, Hood and Marsh, 2010, p. 1). Therefore, it involves a wide variety of methodologies which complicates the availability and suitability of CLIL textbooks.

According to Do Coyle (1999), the main CLIL principles are proposed based on the 4C's Conceptual Framework which provides the backbone of the present work. The 4C's, which are detailed in deep in section 2, are the following: Content, Cognition, Communication and Culture. As it is mentioned in Anna Czura's (2017), learning materials adaptation or development should focus on the principles of the teaching approach being dealt. Particularly, in the present study's case, CLIL textbooks should adhere to 4C's.

The majority of teachers spend most of the time using textbook as a teaching and learning means, indeed the process of selecting an appropriate one is from great importance (Wen-Cheng, Chein-Hung & Cung-Chieh; 2011). Due to the lack of materials, CLIL teachers can choose among three options: producing their own

material, employing authentic material or adapting it. Despite each of the options present advantages and disadvantages, all of them are time-consuming and, what's more, imply having some expertise on coping with CLIL approach. Consequently, teachers' training in adapting or creating material should be considered, as reported by Baker (2006). Moreover, novice teachers, who inevitably have no expertise on it, encounter considerable difficulties in this process. Besides, being the first year of CLIL teaching the hardest one, unexperienced teachers are the ones who need more the textbook's support at least as a tool to guide their lessons' programs. Hence, using a textbook which fits into teachers' teaching program objectives and pupils necessities is not as time-consuming as the process mentioned above. Therefore, providing teachers with a tool to analyse and choose the most appropriate and suitable CLIL textbook would facilitate them the process. For the latter reason, the present study aims to supply a means in a template format to make the procedure less time-consuming.

Otherwise, CLIL textbooks ought to be in line with the national curricula to tackle the content considered obligatory in that particular area which increases the difficulty in developing the process of choosing a textbook, a process which becomes even more complicated in the Spanish scenario. As in Spain there are 17 autonomous communities with their own powers over education, curricula differs from each community which makes the CLIL textbook selecting process more complex. Besides, the schools implementing this bilingual approach in each region teach different subjects in a foreign language and not the same economic resources are invested in them.

As it has been reported at the beginning of this section, CLIL is about teaching and learning content by the means of a foreign language. Nevertheless, this dual-focused approach also implies a constructivist view of education, although no uniform methodology has been agreed (Czura, 2017). In consequence, CLIL textbooks should reflect not only content but also language support, which is often missed in them.

During the last few years, different subjects have been taught through a foreign language in Spanish schools, which the most common are History and Science. In the case that it is being dealt in the present study, selecting a CLIL textbook process is based on Science coursebooks because of two reasons exposed below. On the one hand, Science textbooks have already been used during the last few years following

CLIL methodologies. On the other hand, it is the subject in which, personally, I have got more experience with.

Eventually, selecting an appropriate textbook is an important teaching process due to the fact that, as it has been mentioned in this section, it guarantees teaching and learning quality as for both curricula and methodological aspects and it makes teachers' practice more efficient because of reducing significantly lesson's program organization and preparation. Therefore, this experimental study's main goal is to provide and suggest a template to facilitate the process of selecting an appropriate CLIL Science-specific textbook based on the main principles of this approach, the 4C's through analysing three different CLIL Science textbooks.

1.2. Brief analysis of the state of art

Bilingual education methodologies have recently been implemented across Europe, the citizens' necessity to be actively involved in multicultural and multilingual societies has led to an increase in bilingual methodologies in European schools. One of the most common methods included in schools' syllabus is CLIL (Content and Language Integrated Learning) which is defined by many authors in different manners, but according to Marsh (2002) CLIL makes reference to an approach in which a foreign language is the means to learn a non-language subject, thus, its aim is dual-focused due to the fact that students learn the content subject by using a foreign language and by using it they are also learning the language.

CLIL approach does not only involve a language and content learning process, but a constructivist educational point of view through which the learner is at the centre of the learning process and their critical and creative thinking is enhanced. Besides, an essential aspect in CLIL is giving enough support in order to make students capable of achieving their learning objectives, a process known as scaffolding. Apart from these aspects, the foundations of this integrated methodology are based on the 4C's theory whose author (Coyle, 2007) states that the combination of four aspects (Content, Communication, Cognition and Cultures) establish its basis.

Despite of CLIL's origins date back to 1970s, its recent implementation involves some weak points such as teachers' lack of experience and materials' scarcity. As for the latter, all teachers, but especially novel teachers, need to spend time to select an appropriate educational material to adapt and apply properly into the characteristics

and need of the target group. The use of a template to evaluate a textbook may facilitate this process to teachers.

In spite of the use of textbooks opinions oscillates between two main extremes according to Ansary and Babaii (2002), one position is that textbooks are teachers' saving tools and the other that textbooks are useless and unnecessary for children's learning process. Nevertheless, 'the textbook is a tool, and the teacher must know not only how to use it, but how useful it can be' (Wen-Cheng, et. al., 2011, p. 95).
In CLIL educational environments, the use of the textbook in classroom is also common and different opinions about the topic arise. As Ansary and Babaii (2002) state, a textbook is just a simple tool in the hands of teachers.

Evaluating a textbook in order to determine if it suits the target group or whether it is useful to attain the educational objectives stablished by CLIL teachers is an essential process. To do so, several formats are suggested such as questionnaires, students' needs analysis, checklists or evaluative templates, which is the one selected in the present study.

1.3. Objectives

The main objective of the present study is to create an evaluation template in order to analyse CLIL Science textbooks based on the 4C's framework. With the aim of achieving this objective, other specific goals are described below:

1. To analyse and compare different CLIL templates.
2. To analyse and compare three different textbooks of the same level (Grade 3, Primary Education), regarding the CLIL approach's main principles: Coyle's 4C's framework.
3. To select the most appropriate textbook according to their effectiveness and usefulness regarding pre-determined criteria.

2. LITERATURE REVIEW

2.1. The CLIL approach

This section briefly examines the CLIL approach's history and more deeply its several definitions and main features.

As the first step, a general overview of CLIL's origins is outlined focusing more on the Spanish scenario. Besides, a review of some authors' definitions of what this approach is about is provided.

Furthermore, as the present study is based on the dual-focused methodology's main principles, a thorough and detailed explanation of them is also carried out with the aim of being the focus of the analytical and evaluative final template.

2.1.1 CLIL's definitions and theoretical background

In the last 15 years educational policies in Europe have changed due to the necessity of adapting them to the present world's features. The constant and rapidly changing society and the highly connected world where we live on the present days have become the basis of educational methodologies' remodelling.

European policies promote multilingualism because "languages are a fundamental aspect of the cultural identity" (Euridyce, 2006, p. 3). Since 1995 with the Resolution of the Council on improving and diversifying language learning and teaching, European educational policies have promoted bilingual and innovative methods' implementation such as CLIL with the objective of helping European citizens improve their linguistic competences and become proficient in at least two European languages.

In spite of CLIL recent implementation, content-based methods' origins date back to 1970s. Before these ages, bilingual methodologies were only applied to zones that were linguistically distinctive or in the largest cities.

During the 1970s and 1980s, bilingual methodologies' implementation arose mainly because of the Canadian immersion program. This experiment was held in Quebec, a French-speaking zone where only English language was taught in schools. For the

latter reasons, parents considered convenient to also teach French. The Canadian immersion program is one of the main CLIL's predecessors.

Different kinds of immersion or bilingual provision exist, but the term most widely spread during the 1990s is CLIL (Content and Language Integrated Learning). This was the period of time when European institutions began to seek initiatives to promote innovative methods of foreign language teaching (Lingua programme). In 1995, the Resolution of the Council was created as one of the first pieces of legislation in EU aiming to promote bilingual teaching and to encourage teachers' training by an exchange with other Member States (Eurydice, 2006). European institutions decided to boost CLIL approach. Afterwards, the European Commission launched an Action Plan (2004-2006) in 2003 with the objective of enhancing CLIL type provision to acquire EU's language goals. Since then, CLIL provision has been increasing throughout Europe, but its correct implementation still evokes stakeholders and teachers to relevant debates.

During the last decades, several authors have deeply studied and analysed CLIL methodology and each of them have given their own definition, but the most used is the following one: according to Marsh (2002, p. 58), CLIL refers to any educational approach in which "a foreign language is used as a tool in the learning of a non-language subject in which both language and the subject have a joint role." CLIL is an umbrella term with a dual-focused aim, learning content by means of a foreign language. This content-based approach, not only focus on content and language, but it also involves a constructivist view of education. Therefore, this still novel methodology implies a learner-centred type of education respecting each student's learning path emphasizing the importance of scaffolding and boosting critical thinking.

Nevertheless, CLIL presents also some drawbacks which are still pending to be solved. The bilingual approach's novel implementation results in teachers' lack of experience and materials' scarcity which difficult CLIL proper appliance into real classrooms. Moreover, this two-fold-aimed approach is based on an integrated design (linguistic and non-linguistic) which, in the particular case of Spain, does not take part in the official curricula. This lack of teachers' guidance makes CLIL method's appliance to schools even harder. In Spanish scenario another disadvantage has to be beard in mind, because each of its 17 autonomous communities are empowered over educational legislation. Thus, there cannot be a

common educational line because curriculums differ from one community to another. Therefore, the CLIL's implementation process is even harder.

2.1.2 CLIL fundamentals

As mentioned in the previous section, CLIL approach is not only a mere content and language learning approach, but it also involves a determined educational point of view. CLIL features lay mainly in constructivism, thus it is a learner-centred methodology where pupils are the centre of the teaching and learning process and the teachers' role is basically focused on guiding each student in their own process. Taking into account the idea that each child is unique and follows his/her own learning path, scaffolding becomes indispensable in schools. Furthermore, its indispensability increases when dealing with content and language integrated methods. Learning content by means of a foreign language implies having enough language support to be able to comprehend and apply the content knowledge, while learning the language itself. For this reason scaffolding establishes a fundamental foundation of this approach. Therefore, what is it referred to when using the term scaffolding?

Scaffolding refers to temporary structures to assist students to acquire new concepts and objectives they could not accomplish on their own. These structures are gradually removed when students are able to complete those tasks without help. This type of support in learning environments promotes autonomous learning and makes students aware and responsible of their own learning process. As stated above, in CLIL environments, scaffolding becomes even more relevant because more strategies are needed to not only support content knowledge but also language. According to Meyer (2010), "the quantity and intensity of scaffolding can be reduced as students' language skills advance" (p. 299).

Scaffolding and other constructivist parameters establish the foundations of CLIL educational method, but going deeper in the integrated methodology model, the combination of four elements are its basis, as Coyle (2007) states. The main features, which establish the present study foundations, are: Content, Communication, Cognition and Culture (the commonly named 4C's).
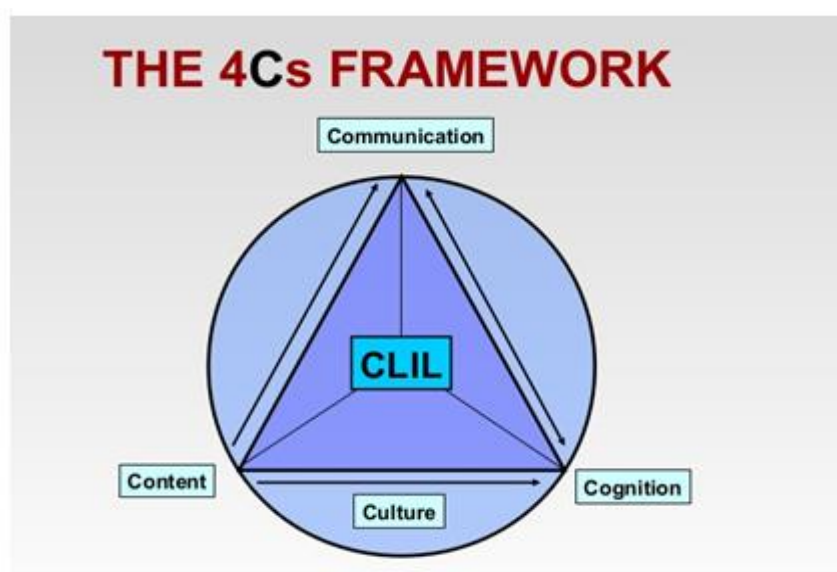
Figure 1: The 4 C's framework (Coyle, Hood and Marsh, 2010)

2.1.2.1 C for Content

As for Content, it refers to the knowledge and skills progression related to the educational curriculum. In Spain, all the autonomous communities in first term should follow the current education law named LOMCE (the legal framework stage). Besides, each autonomous community develop their own curricula which guides that region schools' designing and planning lessons, which in this study's case is the Catalan Primary Education Curricula. Regarding the second stage, which is the first stage in CLIL approach due to the lack of an official curriculum related to it, every school has their own organizational aspects and their own particular educational objectives related to their context, situation and the pupils' needs. In this stage it is also necessary to integrate content and language which are found in a separate section in the official curricula. Eventually, the third stage consists on designing and adapting the programme to the group class context and needs. Therefore, content programming should be carried out through these three stages. Moreover, the knowledge and skills that should be acquired for students must be aligned to the curricula educational objectives.

As far as this study is concerned and according to the first stage, Natural and Social Science blocks of contents stablished in Catalan Primary Education Curricula, in which are tackled separately, are described in the table below.

Table 1: Blocks of Natural and Social Science contents.

NATURAL SCIENCE	SOCIAL SCIENCE
1. Introduction to scientific activities	6. The world around us
2. Living beings' world	7. People, cultures and societies
3. People and health	8. Changes and continuities over the years
4. Matter and energy	
5. Environment, technology and society	

Adapted from the Catalan official curricula.

According to Anderson, Krathwohl et al. (2001), knowledge is divided into four categories: factual, conceptual, procedural and metacognitive, which must be linked to cognitive skills categories.

➢ Factual: basic elements to communicate and understand.

➢ Conceptual: principles and generalisations of a concept or idea.

➢ Procedural: process to know how to carry out a specific skill.

➢ Metacognitive: knowledge and awareness of cognition in order to have the control of it.

The methodology in which content is dealt with is not such relevant on condition that it focuses on constructivist elements. However, the most used methods in CLIL approach are PBL (Project-Based Learning method) and TBL (Task-Based Learning) method because autonomous and meaningful content learning is enhanced. Therefore, knowledge and skills should be acquired through a significant learning environment where language is the vehicle to learn them.

2.1.2.2 C for Cognition

Cognition is related to the thinking skills students must develop in order to promote concept formation and understanding language. Thinking skills enhance critical and creative thinking and it enables pupils to engage a CLIL learning environment, go through difficulties and be able to reflect about their own learning process.

Cognition not only involves language but also critical thinking to enhance learners' autonomy and responsibility above their own learning process. Therefore, cognition is also about developing thinking skills which are classified following a cognitive progression in Bloom's Taxonomy. According to this taxonomy, which was created by Bloom and Krathwohl in 1956 and later revised by Anderson and Krathwohl (2001) (see figure 2), students need to remember in the first place to then apply their knowledge. Only then they will be able to analyse and evaluate it in order to eventually create. There are six major categories in the taxonomy classified in two main blocks following a cognitive progression from lower order thinking skills (L.O.T.S.) to higher order thinking skills (H.O.T.S.). Each cognitive category can be related to verbs to introduce educational goals or objectives learners are expected to attain
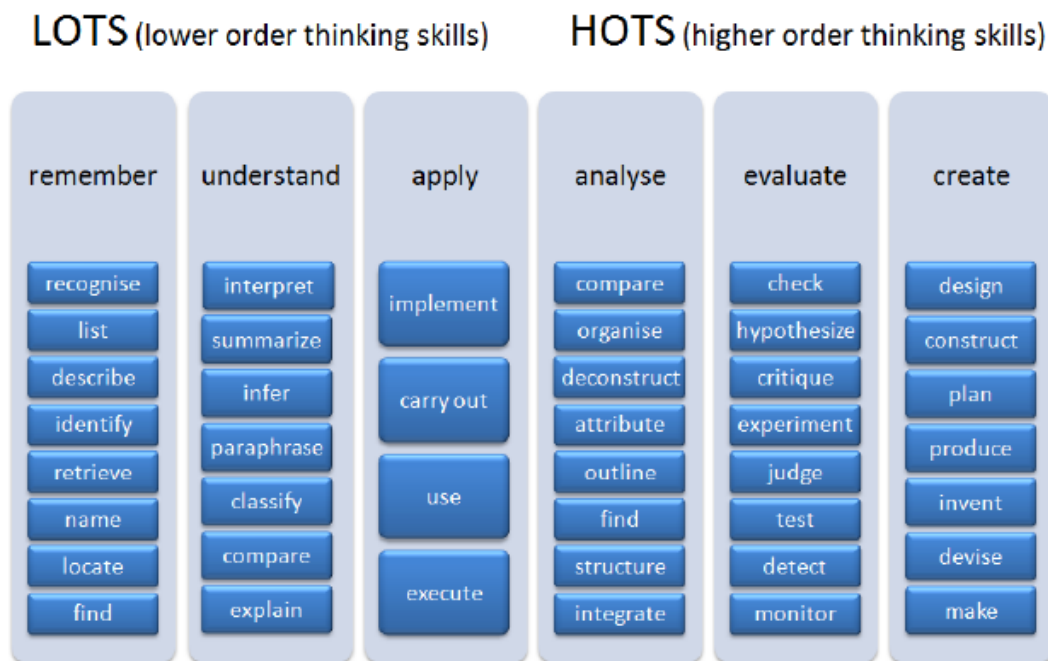
Figure 2: Bloom's Taxonomy revised by Anderson and Krathwohl (2001).

As for the L.O.T.S., the most basic category (remember) is related to produce knowledge from memory such as recognise and recall. The second category is "understand" which is based on making meaning from a concept such interpret and exemplify. Regarding the last category (apply) of this block implies using a procedure. According to Bloom's taxonomy, H.O.T.S.'s first category (analyse) refers to break a concept in parts, where the second one (evaluate) develops a thinking skill by which learners are able to make judgements with criteria. Eventually, the last stage and the core aim of a project or task is "create" which means putting

knowledge and skills together to form something new. As Coyle (2010) outlines, in order to be effective, CLIL must challenge learners to create new knowledge and develop new skills through reflection and engagement in higher-order as well as in lower-order thinking".

Due to the rapidly changing world in which we are living, educational methodologies should evolve together with these changes. This is the motive why CLIL approach has to be adapted to new society's variations. New technologies are the core of all these alterations and teachers should bear in mind that the technological devices are part of each child's everyday routines. Besides, today's learners are named with the term "digital natives", according to Prensky, who defends the argument that students have changed radically, so "today's students are no longer the people our educational system was designed to teach" (2001, p. 1). Consequently and related to the present study, Bloom's Taxonomy has been revised and adapted to new times Crocket, Jukes & Churches (2011) focusing on the idea of facilitating learning by means of the technologies' use (see figure 3 below).
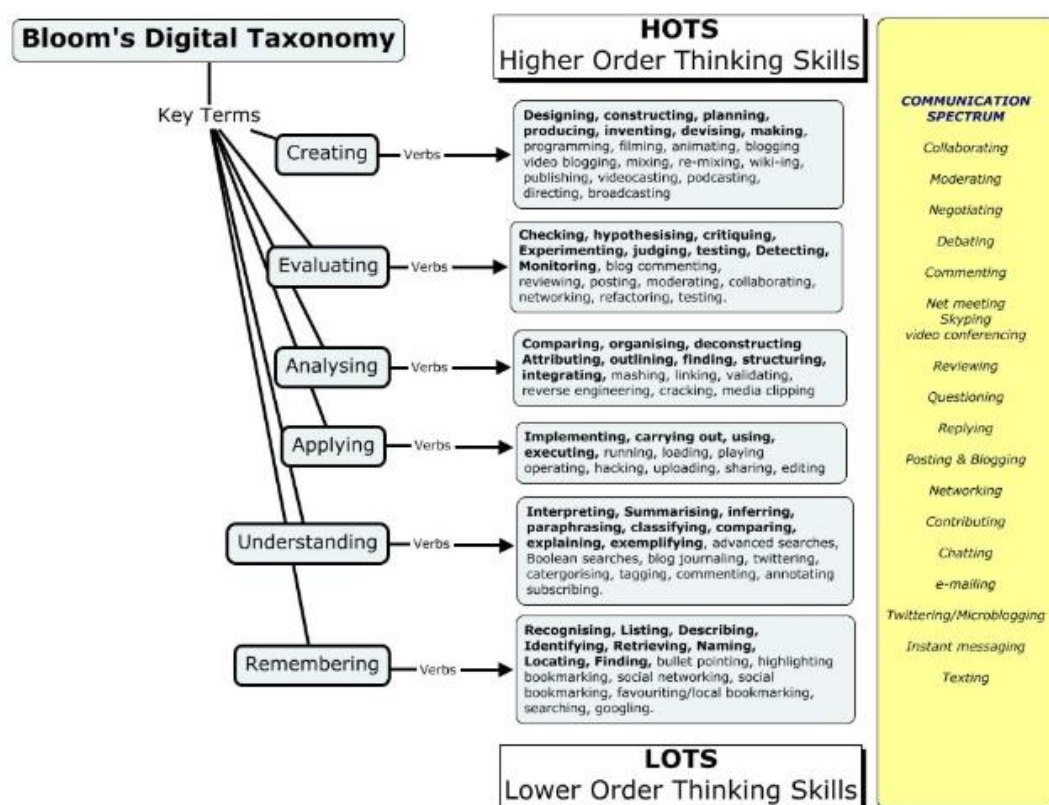
Figure 3: Digital Bloom's Taxonomy (Crocket, Jukes & Churches, 2011, retrieved from: https://www.teachthought.com/critical-thinking/ablooms-digital-taxonomy-for-evaluating-digital-tasks/)

As it can be observed in the figure above, unlike figure 2, some digital verbs related to each cognitive category have been added to the taxonomy. The main aim of this revision relies on the need to enhance global digital citizenship among nowadays students which implies fluency in providing solutions, being creative, in being able to collaborate with others and in media and information treatment.

2.1.2.3 C for Communication

CLIL implies a meaningful and authentic learning environment where interaction is deeply enhanced. Therefore, language used in lessons which follow this approach must be related to the learning context and through that language is the manner learning takes place. CLIL's goals in this sense are to enable learners improve the target language's competence and to develop oral communication skills in both languages, in the foreign language and in their mother tongue too. In order to do so, the target language ought to be transparent and accessible.

Communication is a real challenge in CLIL learning environments because language is not the final objective, as in EFL (English as a Foreign Language) lessons, but a vehicle. In CLIL an additional language is used as the vehicle to learn content .Thus, language needs to be tackled as comprehensible input, a medium to acquire knowledge and it should be specialised. This is the reason why scaffolding language is such essential in a CLIL context. As for the latter feature, students in bilingual education need to develop different kinds of language. As Cummins (1984) established, language could be divided into two different blocks. Cummins used the following terms to name the blocks: BICS and CALP. The mover stands for Basic Interpersonal Communication Skills and the latter for Cognitive Academic Language Proficiency.

BICS is described as the development of conversational fluency in the target language. Basic communication skills are needed in real-life situation tasks. Nevertheless, these skills are more useful in learning a foreign language itself than in a content-based context. BICS are rather limited in these context because the language needed in a subject it is more specific. In regards of CALP, it is referred to the language used in academic situations. Thus, this type of language is more suitable for CLIL because it is specialised in relation to the subject. In spite of being CALP the most needed language in bilingual education, it does not imply not working BICS. Classroom and everyday language have also a great importance, but

they should be better worked in language lessons by language teachers. The aim in CLIL is to go from BICS to CALP, to use the basic skills to achieve more specialised vocabulary and language structures. Therefore, cooperation among both language teachers and subject teachers become obviously fundamental.

Another aspect related to the role of language in CLIL, which is also present in language learning based contexts, are the main four skills to be dealt with.

> Oral comprehension (listening): understanding oral meaningful and significant input.

> Written comprehension (reading): comprehending authentic texts adapted to learners' levels.

> Oral production/expression (speaking): being able to communicate orally using correct structures and specific vocabulary.

> Written production/expression (writing): communicating in a written form using proper specific vocabulary and structures.

These skills are all deeply tackled when learning and teaching a language itself, but they are also dealt with in CLIL learning environments. However, in CLIL these skills are specifically related to the content being worked in that lesson and more emphasis is put on communicative skills rather than the rest of language abilities.

Having a reference to which level of each language skills should students attain helps teachers program and develop their CLIL lessons. For this reasons it is essential to guide language planning through CEFR (Common European Framework of Reference) in European schools' scenario. The Council of Europe created a framework of reference in order to provide a coherent basis for curriculum guidelines' elaboration, the design of materials and the assessment of the target language competence assessment throughout Europe.

Furthermore, another language classification has been established in the recently. According to Coyle, Hood & Marsh (2010), language in CLIL is divided into three types: language **of** learning, language **for** learning and language **through** learning.

This language reconceptualization is named The Language Tryptic and it lies on the heart of CLIL curriculum planning.

➤ Language **of** learning: is the language needed to acquire the concepts related to the subject's specific content. For example, the language to understand specific lexicon or to explain a determined process.

➤ Language **for** learning: is the language learners need to work in a CLIL environment. It is in relation to classroom language, such as subject dynamics and interaction. For instance, the language used to discuss or to defend an argument is an example of this kind of language.

➤ Language **through** learning: is the language necessary for building students' own learning strategies and organising their own comprehension. This type of language acquisition is carried out in a meaningful way. In this case, scaffolding and prior knowledge (what students already know about a topic) are crucial. Being able to use bilingual glossaries, digital tools or to listen to a video as a resource to learn about a topic are examples of this type of language.
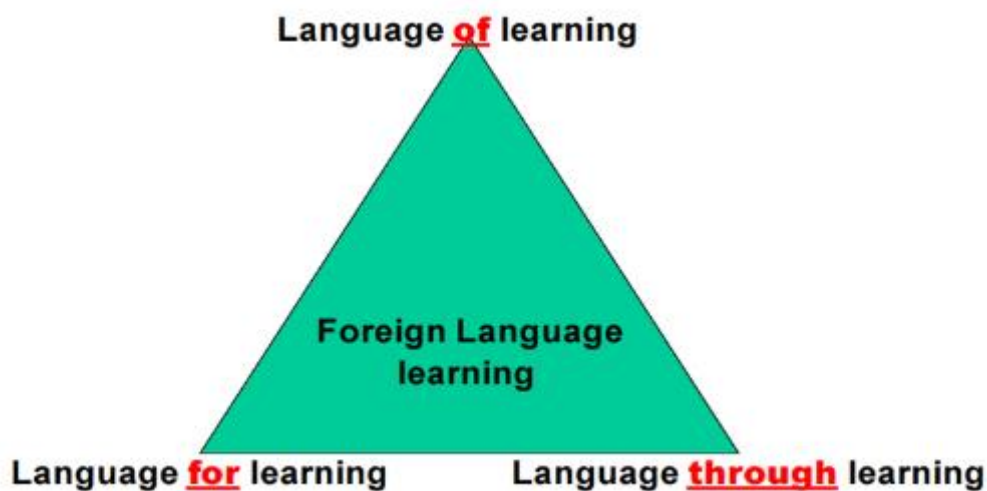
Figure 4: The Language tryptic diagram (Coyle, Hood and Marsh, 2010).

2.1.2.4 C for Culture

The last C defined in the present study from Coyle's 4 C's framework is a complex principle. What makes the cultural component so complicated is the fact that the term culture englobes a wide range of different interpretations. During the last decade, CLIL's cultural features perspectives have changed due to a gradually more digitalised and globalised present society. Recent culture interpretations have been altered on the grounds of digital era defining it in terms of community, citizenship, collaboration or connection. Therefore, bilingual education needs to adapt and follow these cultural aspects' evolution. In Crockett, Jukes & Churches words, "today, it's essential that all of our students have a wide range of skills beyond those that were needed in the 20th century, a range that includes the skills needed to function within a rapidly changing society" (2011, p. 134).

Although culture has been interpreted through different perspectives, as previously mentioned, it is usually defined as a set of social behaviours, practices and values learnt while participating and interacting in groups. Therefore, it is integrated in every topic. In CLIL terms, awareness of one's self and others' identity, citizenship and multilingual understanding are essential aspects to deal with. The core objective is to prepare learners to be able to participate in a multicultural society and be prepared for multiple spheres of cultural interactions through the use of multiple languages.

Furthermore, the culture's role in CLIL learning environments is to engage pupils to take part in the global community promoting collaborative and communicative skills in an ever-connected world.

2.2. The textbook as a teaching tool

2.2.1 Textbook definition

Researchers and theorists provide several definitions about what a textbook is or should be. Some establish that it is a political object and a cultural representation which gives commodity to teachers. Some others defend that, for students, textbooks are a way to control their own learning process or a manner to regulate syllabus for teachers. The idea that textbooks are the basis for the content of the lessons is

defended by some ideologists. Following the same current, Kirkgöz (2009) states that a coursebook is the means for teacher and learner training and that apart from being the major source of language contact for kids, it is a great support to teachers. Coursebooks are the learning vehicles, but they should be used in a flexible and not rigid way. Its flexibility and adaptability is reflected in the following statement: 'the textbook is a tool, and the teacher must know not only how to use it, but how useful it can be' (Wen-Cheng, et. al., 2011, p. 95), thus textbook definition and use is based on teacher's and theorists personal opinion and common sense.

Teachers present different opinions about the use of a textbook which are related to their educational pedagogy point of view. According to Ansary and Babaii (2002), reactions to coursebooks oscillate between two main extremes. One belief is that they are valid teachers' saving tools and the other extreme position defends that textbooks are useless and unnecessary for children's learning process. Obviously, using this kind of material in a classroom has strengths and weaknesses, which are going to be dealt in the following section. As mentioned before, it is all reduced to textbook's users and the importance given to its role in classroom.

2.2.2 Textbook advantages and disadvantages

It has already been mentioned in the previous section that some theorists refuse textbook's usage, the ones who do not find any advantage on it, and some others stand by its use. However, most of teachers and ideologists do not take up such radical points of view, but they suggest some pro and counter arguments for making use of this learning material in a learning environment. What they tend to do is to select the textbook thoroughly and they supplement it with some other resources, as Ansary and Babaii (2002) state.

With reference to the advantages, researchers outline textbooks are useful not only for teachers, but also for learners. Regarding to teachers and according to Chien-Hung, et. al. (2011), coursebooks provide activities' designs and multiple resources such as CDs, DVDs, Flashcards, etc.; besides it assures a logical progression in a class which is fundamental for children. In many occasions, textbooks are the framework to work on and a tool to regulate the syllabus, what's more, as Ansary and Babaii (2002) establish, they may be the syllabus itself. Moreover, in accordance to Sheldon (1988), the intensive and heavy teachers' timetable make them choose a textbook, which involves low lesson preparation time and are more efficient in terms

of time. Particularly, textbooks are of great usefulness for novice teachers, whose expertise is lower, because they are supplied with guidance, security and support that is what they need to gain confidence. With reference to the latter issue, Cunningsworth (1995) points out that textbooks are an effective source of ideas, presentation material and pre-determined learning objectives (which should not become the goals themselves), what also give confidence to unexperienced teachers.

As for young learners, theorists consider the following issues as arguments to support textbooks' use. Some experts agree that learners need to have something concrete to work, so making use of a coursebook as a vehicle of children's learning process is a good way. Pupils find in this source something to work on, a reference which offers them the possibility of taking it home, textbook becomes a learning reference.

Unlike what has been discussed above, theorists, researchers and teachers state some counter-arguments for using coursebooks. Whilst some authors defend that textbooks may be useful for students and they can serve as a course syllabus, others consider this pre-arranged program as a negative feature. On the one hand, the same textbook may be used in different schools located in different surroundings; therefore local culture cannot be reflected in it. As found in Litz (2005, p.7), Prodromou (1988) and Alptekin (1993) point out that is not feasible to 'teach a language without embedding it in its cultural base'. Moreover, if every group of children is different because they have different needs, any textbook cannot be available in these terms. As Ansary and Babaii (2002) express, any book cannot response to all needs. Thus, as some theorists suggest, coursebook are too inflexible because of the fact that they offer an arranged syllabus that is not changeable, but supplemented, which is teachers' task. On the other hand, pedagogic, economic and linguistic preferences of textbook's authors and publishers may influence the classroom planning and methodology according to what Allwright suggests, as found in Litz (2000). Regarding the target language presented in textbooks, theorists who propose real language models argue its effectiveness for the teaching-learning process. Unlike their suggestion, language presented in textbooks is too artificial, unnatural and inappropriate, as they see it. Target language' structures and vocabulary are not similar to the ones children will have to use in real settings, what for them is considered as a great disadvantage. With reference to the latter idea, Sheldon (1988) extends it stating that language is also inappropriate for learner's levels and it is not well distributed in the textbook's layout. Moreover, the author

attributes this fact to 'economic pressures that demand a maximum textual density on each page' (Sheldon, 1988, p. 239).

Several arguments have been gathered, both for and against, about textbook usage as a learning tool. However these arguments may vary due to many factors which they depend on, such as the pedagogical current in which teachers believe, children's needs, classroom's methodology, school's setting, learning aims, etc. Therefore, coursebook's advantages and disadvantages should be analysed from user's point of view because they are actually the ones who have to select the textbooks which best fits, according to their needs and preferences. To conclude, it is all matter of analysing textbooks in order to choose the most appropriate one which will be the most suitable learning tool for the target group or grade. It all depends on how textbooks are thought to be used.

2.2.3 The textbook role in a CLIL environment

The CLIL textbook role in the classroom follows the same features which have been dealt in the previous section. As Ansary and Babaii (2002) state, a textbook is just a simple tool in the hands of teachers. Thus, teachers are the ones in charge of giving an appropriate use to a textbook because both learners and teachers can obtain benefits from them. On the one hand, they may undoubtedly provide an organisation in lesson planning and they cover the curriculum. With reference to CLIL learning environments, regarding the limited availability of teaching resources in which curricula is reflected, according to Eurydice (2006), it becomes relevant to select an appropriate textbook that best fits teachers' planning and the curricula of that region. On the other hand, CLIL textbooks have been designed by experts who take the latest research on this approach into consideration as CLIL textbooks depend on the CLIL pedagogical current. Therefore, textbook should have its basis on a constructivist view and it should follow the CLIL fundamentals (Coyles' 4C's theory). Furthermore, as Ur (2015) outlines, textbooks also assist learners in being more autonomous over their learning process, which is one of the main aims of CLIL approach.

Otherwise, some theorists and stakeholders point out some disadvantages not on textbooks' usage but on CLIL coursebooks design. According to Zaparucha (2009), the first trouble teachers encounter is in obtaining CLIL teaching resources, including textbooks. There are some reasons that support this issue, firstly some

studies are still being carried out about this approach, and thus, it is still a method to work on. Secondly, its recent implementation provokes the scarcity of teaching materials. Thirdly, a lack of teachers' training in designing and creating materials is essential in this matter. Eventually, in Spanish context, there are no official curricula to create the coursebooks' foundations and selecting an appropriate and suitable CLIL textbook is even more complex because of the differences in each of the 17 autonomous communities' content-based curricula.

Another counter-argument of CLIL textbooks is the lack of assistance for novel teachers. According to Richards (1998), the first year(s) of teaching through L2 result to be the hardest ones, the use of a textbook plays a key role as a resource in these situations. Novice teachers cannot rely on a textbook to help guide their lesson planning and organization. Moreover, going deeper to arguments focused on CLIL approach core features, whilst some authors, criticize the emphasis CLIL textbooks give to content and, as a consequence, the lack of language support in them; others focus on the poor presence of scaffolding, a crucial strategy in CLIL, as Meyer (2010) points out. Besides, in the author's words, "Studies comparing various CLIL-textbooks have shown that the cultural dimension has not been properly exploited yet" (2010, p. 20), when Culture is as relevant to deal with in CLIL classrooms as the other Coyles' 4C's and even more, in these present day in which students are called "digital natives". What's more, how can a teacher rely on a textbook in the cultural aspect when it is used in several regions where the surroundings and needs are different?

However, to conclude, the CLIL textbook is a tool that becomes meaningful when the teacher brings it to life. For this reason and according to Baker (2006), it is a priority to training teachers to identify and select quality textbooks which could be useful in their CLIL learning environment.

2.2.4 Science-specific CLIL textbooks in Spain

Textbook's popularity as a teaching resource is undeniable, although the manner in which it has been used during decades in Spain has evolved; its usage has not decreased. In bilingual education terms, CLIL has been the most popular approach and it has been widespread throughout Spain. Therefore, teaching materials have been adapted to the features of the new pedagogical current, integrating both language and content.

Despite any subject in the curriculum can be taught via CLIL approach, some have become more popular to integrate a dual-focused aim. In Spain, each autonomous community is empowered to select the subjects to be taught through this methodology. For example, in the Andalusian model, primary schools which apply CLIL approach are obliged to offer at least two subjects, one of which must be Science. In the case of secondary schools, any subjects can be taught via this integrated method, being Social Studies the most popular. Like in Madrid scenario, Science is one of the subjects most used both in Primary and Secondary schools. In contrast, the Valencian model, it is a school-decision which subjects wants or needs to be taught through a foreign language, except for Science which must be taught in Valencian.

2.3. Textbook evaluation

Determining how well a textbook suits in a target use group and whether it is feasible or not in order to attain the aims established by CLIL teachers theorists and researchers suggest some materials and methods, such as questionnaires, target group and children's needs analysis, checklists approach or the use of evaluative templates.

With reference to the first issue, survey questionnaires created by the researcher/s or the instructors themselves are supposed to be provided to both teachers and learners. According to Litz's case study (Litz, 2000); the questions in the survey must be based on specific concerns and priorities particularly from the school. According to Sheldon (1988), questionnaires may contain questions related to layout and graphics, availability of the materials the textbook offers, user definition, accessibility and organisation, linkage among units, physical characteristics, content authenticity, cultural bias, flexibility, guidance or subject content. Apart from these aspects, 'criteria should analyse specific language, functions, grammar and skills content' (Litz, 2005, p. 10). The author distinguishes two types of questions to use in an evaluation survey: general and specific questions. The former can be applied to any context, so they may be helpful to other CLIL learning environments. Unlike this one, the latter are more related to concrete settings which cannot really be applied in other contexts without any modification. Questionnaires may be particularly useful to elicit practicing teachers' opinions and students' views feedback. Another assessment instrument, as Litz (2005) proposes, is a target group and student's

needs analysis to seek out what interests and expectations do learners have. Besides, it may be of great usefulness to elicit which are the students' objective and methodological views in CLIL lessons. By means of this evaluative tool, the process' agent would be able to get feedback to know which textbook is more suitable and effective in the target group.

Checklists are another tool to evaluate the merits and demerits of a coursebook. Ansary and Babaii (2002) state that the main checklists' drawback is that they strictly depend on theoretical issues or on author's own priorities and criteria. Every single checklist is developed with different criteria and for different circumstances. This is the reason why Cunningsworth (1995) suggests identifying one's priorities and to create new checklists based on others already made.

According to Cunningsworth (1995), selecting a coursebook is not an easy issue, but a challenging task. Researchers have made a distinction of three certain types of evaluation regarding the moments when they are being carried out. Pre-use evaluation is one of these moments and it refers to carry out the selection process before using it in a classroom. This kind of evaluation may be effective when instructors want to change the target textbook or to start using one from the very beginning. While making use of the coursebook, is proposed another type of evaluation named by Cunningsworth (1995) as in-use evaluation, which may be helpful to assess its suitability to the particular group. Eventually, the post-use evaluation consists of doing a retrospective assessment to seek out information after using the textbook. It is a good option to acknowledge its utility and whether its particular context application is feasible or not. In the present study's case, a pre-use evaluation template is created.

The author also refers to another kind of classification in regards of how the analysis is made; Cunningsworth (1995) distinguishes between two types of evaluation approaches: *impressionistic overview* and *in-depth evaluation*. In terms of the first approach, it consists of undertaking the book in a receptive evaluation process that is, taking into account everything that seems interesting to the researcher/teacher and not paying attention to the rest. Unlike this approach, in-depth evaluation is about determining information and objectives previously and then, looking for this particular information in the textbook. What Cunningsworth (1995) suggests is that the best option is to combine both approaches to achieve more effectiveness in the selection process.

Regarding this selection process, it is a complex task, as it has been mentioned above, due to many factors which influence it. Selecting the most effective textbook is not as easy as following established general criteria, because its feasibility is specific of each learning environment. This issue has already been dealt previously, but is worth pointing out some of the mentioned factors. The target use group is the main element that influences the selection process because of the diversity of needs and difficulties of each child and each class group, in general. Another factor by which the evaluation is affected is the school's and teacher's perspective, that is, the pedagogical and methodological system they defend. Therefore, CLIL approach's main features (as mentioned in previous sections, a constructivist pedagogical view and Coyle's 4C's theory) are an essential basis on which the textbooks' selection process should be analysed.

To ensure that textbooks are of a good quality and appropriateness, an evaluation process has to be developed with the aim of finding the best possible fit to the target-group and modifying it where necessary. Some steps are proposed by Cunningsworth (1995) to analyse and select an appropriate textbook. Firstly, a detailed analysis of the material in order to provide data has to be made. Secondly, the data gathered has to be interpreted. In third place, teachers have to evaluate the interpretations, which would be subjective to some extent. The fourth and final stage consists of selecting the most appropriate book according to the criteria established.

Another evaluative tools are templates, which is the tool concerned in the present study. In order to accomplish this work's main objective, some CLIL templates are taken into account and are presented below.

The first template (template A) has been retrieved from a Catalan website related to Education Department of Catalan government which offers materials and tools for teachers to implement in their lessons. The checklist has been adapted from Coyle, Hood and Marsh (2010). Next two figures (two parts) show the complete items of the checklist:

CLIL Unit Checklist

CLIL Theme ....   Date ....

Unit of work ....   Class ....

Clarifying global goals, teaching aims and learning outcomes
- ❏ Are the global goals (vision) embedded in the unit planning?
- ❏ Are the teaching aims clear?
- ❏ Are the learning outcomes defined? Which ones can be measured? How?

Content
- ❏ Have I considered how to scaffold content learning?
- ❏ Are my presentations of new content clear?
- ❏ Is the content accessible?

Language/Communication
- ❏ Are the students involved in *using* language?
- ❏ Are students involved in *learning* language? Are there adequate opportunities for them to practise the new language structures?
- ❏ Are my instructions clear?
- ❏ Are the questions I ask at the appropriate level? Do the questions relate to the cognitive demands?
- ❏ Have the students got adequate vocabulary/language to answer my questions?
- ❏ Are my presentations of new concepts clear?
- ❏ Have I planned language *of* learning?
- ❏ Have I planned language *for* learning?

Cognition/Thinking
- ❏ Are the questions/problems to be solved at the appropriate cognitive level?
- ❏ Have I considered how I can ensure that the learners progress cognitively, and how I can measure this progress?
- ❏ Are there ways to assist learners in developing a range of strategies through the CLIL language?

Culture
- ❏ Have I thought about the contribution that this unit makes to changing classroom culture (e.g. from arguing or not taking account of other's views to listening and managing differences of opinions?
- ❏ Have I considered how the theme of this unit can promote awareness of cultural difference /global citizenship?
- ❏ Have I identified opportunities that are now available for me to develop a pluricultural perspective on what I am teaching because I am using the medium of another language?
- ❏ Have I identified opportunities in this unit which encourage curriculum links? Can we communicate with and work alongside learners from other countries?

Activities
- ❏ Do the tasks designed relate to the global goals, aims and outcomes in terms of the 4Cs?
- ❏ Is progression built into language and content tasks?
- ❏ Do the activities help to develop talk for learning?
- ❏ Have I considered which language is needed to carry out each activity?
- ❏ Is this an initial /progress/summary/assessment activity?

Figure 5. Template A: CLIL Unit checklist by Education Catalan Department (part 1)

Supporting learning
- ❑ Are there adequate opportunities for students to engage in practical activities to experience CLIL?
- ❑ Have I identified which type of teacher scaffolding is needed to support language and learning?
- ❑ Have I analysed the content and cognition for potential difficulties?
- ❑ Have I recycled new language from previous units to support learner progression?

Assessment
- ❑ Have I considered how the learners will know what they have learnt?
- ❑ Have I considered how I will know what they have learnt?
- ❑ Have I decided what to assess during the unit to ensure that feedback informs further learning?
- ❑ Do I know what my choices are in terms of what I will assess?
- ❑ Do I know what kind of formative and summative assessment tasks I will need?

Reflection
- ❑ Is there variety (groups, pairs)?
- ❑ Have I allocated enough time?
- ❑ Have I thought about what I might change in this unit?
- ❑ Have I thought about what I might add to or leave out from this unit?
- ❑ How can I collect students' views about this unit? And act on them?

Other comments/notes including student's feedback

Figure 6. Template A: CLIL Unit checklist by Education Catalan Department (part 2)

The second template (template B) is retrieved from López (2016). Next two tables (two parts) show the complete items of the checklist.

Table 2. Template B: CLIL textbook evaluation checklist (part 1)

Criteria
I. GENERAL
A. Structure
1. The organization is consistent with the curriculum
2. The objectives are specified explicitly
3. It includes self-evaluation at the end of the modules
4. It provides summarizing items at the end of the modules
B. Supplementary materials
5. The resource pack is complete
6. The resource pack includes varied ICT resources
7. It offers supplementary materials for under /over -achievers
8. It provides guidance for non-native content teachers
9. It provides support for language assistants
C. Physical and utilitarian features
10. It shows quality in editing and publishing
11. Its layout is attractive
12. It contains appropriate pictures, diagrams, tables …
13. It is easily available
14. It is durable
15. It is cost-effective
II. CONTENT
16. It covers the contents of the curriculum
17. Learning outcomes for learning are specified
18. The content is appropriate for the students' age
19. The content is relevant to students' experiences
20. The order of sequences is flexible
21. It provides support to simplify content (scaffolding)
22. The visual content is functional
23. The activities suggested for practicing the content are varied
24. The activities suggested for practicing the content are enough
25. There is authentic material at an appropriate level

Retrieved from López (2016)

Table 3. Template B: .CLIL textbook evaluation checklist by (part 2)

III. COGNITION
26. It allows breaking down tasks / activities to make them more manageable (scaffolding)
27. It relates written work to structures and vocabulary practiced orally
28. The activities are cognitively appropriate for the content
29. It caters the needs of different learning styles
30. Activities activate previous knowledge
31. Activities are challenging
32. Activities are motivating
33. Activities include projects
IV. COMMUNICATION
34. It provides support to simplify language (scaffolding)
35. It stresses communicative competence in activities
36. The activities enable students to use the L2 outside the classroom situations
37. Activities are developed to encourage teacher-student and student-student communication
38. Activities are balanced between individual response, pair work and group work
V. CULTURE
39. It relates content to the learners' culture and environment
40. It guides students in developing cultural awareness
41. The content is relevant to the socio cultural environment
42. The content involves culture-specific items
43. The content is free from stereotypical images
44. The visuals relate to the students own culture
45. Cultural sensitivities have been considered
VI. LANGUAGE
46. The language is authentic
47. It gives guidance in the presentation of vocabulary
48. The number of new words in each module is appropriate to the students' level of L2
49. There is appropriate sequencing of vocabulary (load and re-entry)
50. It gives practice in guided composition in early stages
51. It presents vocabulary in appropriate contexts and situations
52. It considers proficiency level of L2
53. It suggests aids for pronunciation
VII. INTEGRATION
54. It is consistent with the principles of CLIL

Retrieved from López (2016)

Eventually, the third template (template C) is retrieved from Cruces (2015). Next three tables (three parts) show the complete items of the template.

Table 4: Template C: CLIL science textbook selection checklist (part 1)

	CLIL SCIENCE TEXTBOOK SELECTION CHECKLIST ONE TEXTBOOK TEMPLATE	Very poor	Poor	Average	Good	Excellent	TOTAL
	CONTENT	1	2	3	4	5	
1	The contents selected agree with those prescribed by the current educational law.						
2	The contents that are suggested by the textbook challenge learners' thinking.						
3	The contents that are suggested by the textbook are accessible for the students' cognitive level.						
4	The textbook activities integrate language development and content acquisition.						
5	The textbook offers opportunities for cross-curricular content to be addressed.						
6	The textbook offers varied educational situations such as experiments to facilitate content acquisition.						
7	The textbook includes multimodal input to address the visual, aural, tactile and kinesthetic modes of learning.						
8	The textbook offers opportunities for students to build on prior knowledge.						
9	The textbook promotes activities aimed at the production of observable outcomes.						
	CONTENT TOTAL SCORE						/45
	COGNITION	1	2	3	4	5	
10	The textbook is cognitively demanding for the target students.						
11	The textbook is well adjusted linguistically to facilitate cognitive progression. (i.e. it fits the students expected level or is slightly above						

Retrieved from Cruces (2015)

Table 5. Template C: CLIL science textbook selection checklist (part 2)

			1	2	3	4	5	
		it).						
12	The textbook presents a cognitive progression in its content and activities							
13	The textbook provides opportunities for students to reflect on their own learning process.							
14	The textbook provides students with study strategies.							
15	The textbook suggests activities into which both high order thinking skills (HOTS) and low order thinking skills (LOTS) are promoted.							
16	The textbook provides sufficient and appropriate scaffolding for the development of cognitive processes.							
	COGNITION TOTAL SCORE							/35
	COMMUNICATION		1	2	3	4	5	
17	The textbook is written in an appropriately simple but entirely correct language.							
18	The textbook employs the appropriate linguistic functions for each task. (e.g.: defining, describing and hypothesizing).							
19	The textbook highlights the core vocabulary items and phrases for each theme.							
20	The textbook predicts students' communicative necessities and provides the corresponding language support.							
21	The textbook's activities create communicative gaps to allow students to use the language meaningfully.							
22	The textbook includes activities to be carried out in different groupings (individual, pair work, small groups and whole class).							
	COMMUNICATION TOTAL SCORE							/30
	CULTURE		1	2	3	4	5	
23	The textbook presents contents for promoting intercultural awareness							

Retrieved from Cruces (2015)

Table 6. Template C: CLIL science textbook selection checklist (part 3)

	at three levels: surface culture (food and specific holidays), sub-surface culture (notions of courtesy and body language) and deep culture (unconscious values and attitudes).						
24	The textbook presents contents for promoting intercultural awareness at three levels: surface culture (food and specific holidays), sub-surface culture (notions of courtesy and body language) and deep culture (unconscious values and attitudes).						
25	The textbook's cultural references are pertinent (not forced) for content acquisition.						
26	The textbook offers a perspective on the three levels of intercultural education: the students' culture, the foreign culture and global/universal culture.						
27	The textbook includes aspects of the students' regional culture.						
28	The textbook includes balanced references to the students' culture and others.						
	CULTURE TOTAL SCORE						/30

FINAL SCORE						/ 140
	Very poor	Poor	Average	Good	Excellent	
COMMENTS	.....					

Retrieved from Cruces (2015)

As for the present work, the three different textbooks data is analysed following the criteria mentioned in previous sections and which is detailed in depth in the next section. This data is interpreted in order to select the most CLIL Science-specific textbook and to attain this study's main aim: creating a final template with the objective of being a useful tool for other teachers for facilitating the CLIL textbooks' selection process.

3. EXPERIMENTAL FRAMEWORK

3.1 Methodology

The present study aims to create a useful template to analyse and evaluate a CLIL Science textbook. In order to accomplish it Coyle's 4C's theory has been taken into account, as it has been dealt with in the previous section, and some criteria have been deduced from it.

Besides, some other CLIL textbook's templates and checklists, introduced in section 2.3, have been analysed below with the aim of adding or modifying the present's study template.

3.1.1 Coyle's 4C's criteria

Bearing in mind Do Coyle's theory, described in Literature's Review section, criteria descriptors are established in this section in order to make a further comparison to other templates and eventually accomplish the aim of creating a textbook analysis template. As for the 4C's framework and the three stages stated to standardize content in Spain (see 2.1.2.1 section), these criteria are established:

1. Textbook's contents are selected following the current autonomous community curricula.
2. Textbook's contents are contextualized and take different situations into account.
3. Textbook's contents integrate language support.
4. Textbook enhances critical and creative thinking.
5. Textbook promotes the progression from LOTS to HOTS.
6. Textbook fosters new technologies uses.
7. Textbook shows comprehensible input for the target learners.
8. Textbook offers scaffolding language support.
9. Textbook tackles the four language skills.
10. Textbook tackles the four language skills.
11. Textbook boosts the Language Tryptic.
12. Textbook fosters progression from BICS to CALP.
13. Textbook deals with multicultural aspects.
14. Textbook fosters citizenship values.
15. Textbook boosts new technologies uses.

3.1.2. Template A

Template A consists of several sections with different questions to reflect on. It does not include a score or a progressive scale to analyse didactic units or textbooks. See section 2.3 to find the complete template, the following is only the part considered relevant and related to the present study. The rest of the checklist's items could/should be considered for further studies. Apart from CLIL fundamentals, the features dealt with in this study, the checklist incorporates questions related to goals and learning outcomes and activities. It also reflects on how assessment and scaffolding are organized and thought.

Although the following CLIL template is not specifically about textbooks but CLIL units and lessons, it tackles some interesting issues related to CLIL fundamentals which are the foundations of this study. This is the reason why it is analysed in this section.

Content
- Have I considered how to scaffold content learning?
- Are my presentations of new content clear?
- Is the content accessible?

Language/Communication
- Are the students involved in *using* language?
- Are students involved in *learning* language? Are there adequate opportunities for them to practise the new language structures?
- Are my instructions clear?
- Are the questions I ask at the appropriate level? Do the questions relate to the cognitive demands?
- Have the students got adequate vocabulary/language to answer my questions?
- Are my presentations of new concepts clear?
- Have I planned language *of* learning?
- Have I planned language *for* learning?

Cognition/Thinking
- Are the questions/problems to be solved at the appropriate cognitive level?
- Have I considered how I can ensure that the learners progress cognitively, and how I can measure this progress?
- Are there ways to assist learners in developing a range of strategies through the CLIL language?

Culture
- Have I thought about the contribution that this unit makes to changing classroom culture (e.g. from arguing or not taking account of other's views to listening and managing differences of opinions?
- Have I considered how the theme of this unit can promote awareness of cultural difference /global citizenship?
- Have I identified opportunities that are now available for me to develop a pluricultural perspective on what I am teaching because I am using the medium of another language?
- Have I identified opportunities in this unit which encourage curriculum links? Can we communicate with and work alongside learners from other countries?

Figure 7: CLIL Unit checklist 4C's part retrieved from Education Catalan Department (Template A)

As for Content, fewer questions are suggested in this part than in the other C's. No curricula or laws have been taken into account in this checklist. Scaffolding, considered a CLIL fundamental, is part of the analysis of content in the checklist. Accessibility and clarity of content are two items also considered important to analyse in this checklist.

According to Communication, most of the questions are related to didactic units and lesson implementation in classroom. Above all, the language used by the teacher, in this case, is given great importance as most of the questions of this part refer to this. The last questions are related to Cummins' Language Tryptic theory, although only language of and language for are considered and there is no mention about language through.

Concerning cognitive features, the questions established in this part are basically focused on teacher's own reflection to develop and attend learners' cognitive demands. However, the first question, which tackles the issue of cognitive level's appropriateness, is more related to the activities or tasks than to teacher's attitude.

Eventually, with respect to cultural dimension, some CLIL significant issues are mentioned as changing cultural classroom awareness and promoting citizenship and multicultural perspective. The template also enhances communication proposals with other countries

3.1.3 Template B

López's study (2016) is similar to the present study, the author's work carries out a deeper investigation, therefore more issues are taken into consideration in this checklist. To see the complete template see section 2.3, in this section only the parts dealing with 4C's theory are included.

Table 7: Content part of the CLIL textbook evaluation checklist (Template B)

II. CONTENT
16. It covers the contents of the curriculum
17. Learning outcomes for learning are specified
18. The content is appropriate for the students' age
19. The content is relevant to students' experiences
20. The order of sequences is flexible
21. It provides support to simplify content (scaffolding)
22. The visual content is functional
23. The activities suggested for practicing the content are varied
24. The activities suggested for practicing the content are enough
25. There is authentic material at an appropriate level.

Retrieved from López (2016)

Table 8: Cognition, Communication and Culture part of the CLIL textbook evaluation checklist (Template B)

III. COGNITION
26. It allows breaking down tasks / activities to make them more manageable (scaffolding)
27. It relates written work to structures and vocabulary practiced orally
28. The activities are cognitively appropriate for the content
29. It caters the needs of different learning styles
30. Activities activate previous knowledge
31. Activities are challenging
32. Activities are motivating
33. Activities include projects
IV. COMMUNICATION
34. It provides support to simplify language (scaffolding)
35. It stresses communicative competence in activities
36. The activities enable students to use the L2 outside the classroom situations
37. Activities are developed to encourage teacher-student and student-student communication
38. Activities are balanced between individual response, pair work and group work
V. CULTURE
39. It relates content to the learners' culture and environment
40. It guides students in developing cultural awareness
41. The content is relevant to the socio cultural environment
42. The content involves culture-specific items
43. The content is free from stereotypical images
44. The visuals relate to the students own culture
45. Cultural sensitivities have been considered

Retrieved from López (2016)

López template's layout is a grid divided into seven different sections, each section including several criteria, without any kind of progressive scale or score. The first part is dedicated to general criteria comprising the textbook's structure, supplementary materials and physical features. As for the second part, which is shown above in this section, it is devoted to Content. This part tackles issues related to curriculum, learning outcomes, appropriateness to students' age, scaffolding, the variety and sufficiency of activities and the authenticity and functionality of content. With respect to the third section, it makes reference to Cognition. The criteria established by the author takes into consideration the following items: scaffolding, equilibrium between written and oral work, previous knowledge, learning styles and the activities' level of motivation and challenge. Next part refers to Communication which also includes a criteria considering scaffolding, the stress of communicative competence is highlighted and also the template focuses on the activities' development. Relevance is given to enhancing not only classroom communication, but enabling students to use language outside the classroom. The last criterion points out the variety of classroom grouping.

Regarding cultural features, the author states criteria associated with the development of learners' own culture and environment awareness. López mostly connects culture to the contents tackled in the textbook, thus, items related to content are included in this section, as for example whether textbook's visuals and images are related to learners own culture and free of stereotypes.

In spite of devoting one section to communication, another part is included to deal with language itself. The criteria established in this section mainly focus on language authenticity, the appropriateness of the number of words to the students' level, contextualisation of language and pronunciation. Eventually, the last part of the template is entitled "Integration" and includes one criterion highlights the textbook's adequacy with CLIL principles.

3.1.4 Template C

The checklist template is retrieved from Cruces (2015). Unlike the templates analysed in the previous sections, this template is only focused on Coyle's 4C's theory. Therefore, several criteria are established for each C (Content, Cognition, Communication and Culture) as it can be observed in the following figures. The checklist layout consists of a grid with a progressive scale for each criteria descriptor (from "very poor" to "excellent") and a part is also devoted to the counting of the textbook's score according to the criteria established.

Table 9: Content part of the CLIL science textbook selection checklist (Template C)

CLIL SCIENCE TEXTBOOK SELECTION CHECKLIST ONE TEXTBOOK TEMPLATE	Very poor	Poor	Average	Good	Excellent	TOTAL
CONTENT	1	2	3	4	5	
1 The contents selected agree with those prescribed by the current educational law.						
2 The contents that are suggested by the textbook challenge learners' thinking.						
3 The contents that are suggested by the textbook are accessible for the students' cognitive level.						
4 The textbook activities integrate language development and content acquisition.						
5 The textbook offers opportunities for cross-curricular content to be addressed.						
6 The textbook offers varied educational situations such as experiments to facilitate content acquisition.						
7 The textbook includes multimodal input to address the visual, aural, tactile and kinesthetic modes of learning.						
8 The textbook offers opportunities for students to build on prior knowledge.						
9 The textbook promotes activities aimed at the production of observable outcomes.						
CONTENT TOTAL SCORE						/45

Retrieved from Cruces (2015)

As it can be observed in the figure above, nine criteria are established for the Content. The criteria take into consideration the current curriculum and some cognitive features such as textbook learners' thinking challenge and cognitive level accessibility. Other descriptors are related to the variety of activities and the language development linked to content. Multimodal input and prior knowledge are also CLIL core characteristics which are part of this template.

Table 10: Cognition part of the CLIL science textbook selection checklist (Template C)

	COGNITION	1	2	3	4	5	
10	The textbook is cognitively demanding for the target students.						
11	The textbook is well adjusted linguistically to facilitate cognitive progression. (i.e. it fits the students expected level or is slightly above it).						
12	The textbook presents a cognitive progression in its content and activities						
13	The textbook provides opportunities for students to reflect on their own learning process.						
14	The textbook provides students with study strategies.						
15	The textbook suggests activities into which both high order thinking skills (HOTS) and low order thinking skills (LOTS) are promoted.						
16	The textbook provides sufficient and appropriate scaffolding for the development of cognitive processes.						
	COGNITION TOTAL SCORE						/35

Retrieved from Cruces (2015)

The part of Cruces' template shown above is the one dedicated to Cognition. In this section, seven criteria descriptors are stated. Firstly, the adequacy of cognitive demand to learners' age is established and cognitive progression is facilitation is also highlighted. Moreover, other descriptors refer to the reflection of students' own learning process and study strategies provision. Finally, Bloom's taxonomy and scaffolding are taken into consideration in cognitive criteria.

Table 11: Communication part of the CLIL science textbook selection checklist
(Template C)

	COMMUNICATION	1	2	3	4	5	
17	The textbook is written in an appropriately simple but entirely correct language.						
18	The textbook employs the appropriate linguistic functions for each task. (e.g.: defining, describing and hypothesizing).						
19	The textbook highlights the core vocabulary items and phrases for each theme.						
20	The textbook predicts students' communicative necessities and provides the corresponding language support.						
21	The textbook's activities create communicative gaps to allow students to use the language meaningfully.						
22	The textbook includes activities to be carried out in different groupings (individual, pair work, small groups and whole class).						
	COMMUNICATION TOTAL SCORE						/30

Retrieved from Cruces (2015)

With respect to Communication, six criteria descriptors are stated in the chart above. Linguistic functions are taken into consideration as well as appropriate and correct language. Different types of groupings and learners' communicative needs are also highlighted in this template.

Table 12: Culture part of the CLIL science textbook selection checklist (Template C)

	CULTURE	1	2	3	4	5	
23	The textbook presents contents for promoting intercultural awareness						
	at three levels: surface culture (food and specific holidays), sub-surface culture (notions of courtesy and body language) and deep culture (unconscious values and attitudes).						
24	The textbook presents contents for promoting intercultural awareness at three levels: surface culture (food and specific holidays), sub-surface culture (notions of courtesy and body language) and deep culture (unconscious values and attitudes).						
25	The textbook's cultural references are pertinent (not forced) for content acquisition.						
26	The textbook offers a perspective on the three levels of intercultural education: the students' culture, the foreign culture and global/universal culture.						
27	The textbook includes aspects of the students' regional culture.						
28	The textbook includes balanced references to the students' culture and others.						
	CULTURE TOTAL SCORE						/30

Retrieved from Cruces (2015)

Eventually the Culture stage of the template, shown below, includes descriptors about raising intercultural awareness by means of dealing with pertinent content. The author also considered important to take multicultural perspectives into consideration and also that the textbook offers balanced references to students' region cultural aspects and other culture's features.

3.2 Analysis tool

The present study's final objective consists of creating a final template based on the 4C's theory in order to analyse and evaluate CLIL Science textbooks. For the latter reason, three kinds of CLIL evaluation checklists and templates have been analysed in the previous section. Therefore, some criteria descriptors are deduced from the literature review (see section 3.1.1 *Coyle's 4C's criteria*), while others due to its considerable relevance to this study have been incorporated from the templates analysed in the previous section.

Regarding the template's format, it is composed of several criteria descriptors classified into four categories according to the 4C's (Content, Cognition, Communication and Culture). A grading scale is included in the template due to its easiness when analysing and carrying out a textbook selection process and the global score is added at the end of the template. The grading scales ranges from Poor, which is worth one point (1), Sufficient (2), Good (3) and Excellent (4). Besides, in each category there is a part devoted to "observation" to make notes of the qualitative features which cannot be quantified. Eventually, at template's final stage another "Observation" grid is inserted to make general comments, in case of necessity.

Table 13. Present study's CLIL Science textbook analysis template

CLIL SCIENCE TEXTBOOK ANALYSIS TEMPLATE	1 Poor	2 Sufficient	3 Good	4 Excellent	SCORE
CONTENT					
1. Textbook's contents are selected following the current autonomous community curriculum.					
2. Textbook's contents are contextualized and take different situations into account.					
3. Textbooks' contents integrate language support.					
4. Textbook's content is accessible for the target group of students.					
5. Textbook provides authentic material.					
6. Textbook includes multimodal input.					
7. Textbook offers activities to build on prior knowledge.					
CONTENT SCORE					
OBSERVATIONS					
COGNITION	1	2	3	4	SCORE
1. Textbook enhances creative and critical thinking by giving opportunities to reflect on their own learning process.					
2. Textbook promotes the progression from LOTS to					

	1	2	3	4	SCORE
HOTS.					
3. Textbook fosters new technologies uses.					
4. Textbook offers different learning styles.					45
COGNITION SCORE					

OBSERVATIONS					

COMMUNICATION	**1**	**2**	**3**	**4**	**SCORE**
1. Textbook offers comprehensible input.					
2. Textbook provides scaffolding language support.					
3. Textbook tackles the four language skills.					
4. Textbook boosts the Language Tryptic (language of, for and through).					
5. Textbook foster progression from BICS to CALP.					
6. Textbook offers different kinds of grouping to foster communication.					
COMMUNICATION SCORE					

OBSERVATIONS					

CULTURE	**1**	**2**	**3**	**4**	**SCORE**
1. Textbook deals with multicultural perspectives by raising cultural awareness.					
2. Textbook fosters citizenship values.					
3. Textbook boosts new technologies uses.					
4. Textbook enhances communication proposals with other countries' learners.					
5. Textbook's visuals are diverse and free from stereotypical images.					
6. Textbook offers balanced references to student's regional culture and other cultures.					
CULTURE SCORE					

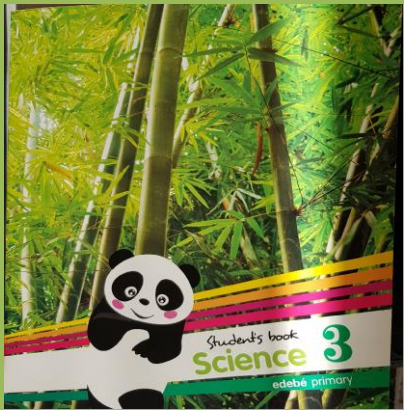| OBSERVATIONS	
	GLOBAL SCORE
GLOBAL OBSERVATIONS	

<div align="right">Own elaboration</div>

3.3 Data collection

The CLIL Science textbooks gathered in this study have been chosen due to their availability and proximity. During this scholar year, I work in a school where CLIL methodology is implemented basically through the Science subject, for this reason a research of all the textbooks used in this school has been carried out. As the school is situated in a little town surrounded by nature, the scientific method is emphasised. Moreover, the schools takes part in an Erasmus + program which final goal is to change the school into a more sustainable community, thus, it confirms the relevance given to Science.

As the school methodology focuses on Science and also in CLIL, plenty of books are kept in the school library. For this reason and as mentioned at the beginning of this section, a research on these textbooks has been done. Firstly, I decided to look for 3rd Grade textbooks, which is the group with I spend most of my teaching time. Secondly, a choice for three textbooks of approximately the same year of edition was carried out and, eventually, the final issue taken into consideration is the fact that all textbooks are from different publishing houses to increase the variety.
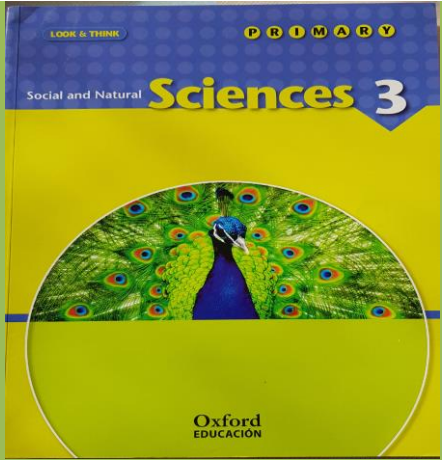
Having stated the reasons why the textbooks have been chosen, a brief description of each one is detailed below.

Table 14: Science 3 textbook's basic information (Textbook 1)

Textbook 1	Science 3 (Student's Book)	
Grade	3rd Grade	
Publishing house	Edebé	
Year	2012	

Own elaboration

Table 15: Social and Natural Sciences 3 textbook's basic information (Textbook 2)

Textbook 2	Social and Natural Sciences 3	
Grade	3rd Grade	
Publishing house	Oxford Educación	
Year	2010	
Additional information	Oxford Educación is a registered trademark in Spain of Oxford University Press, España, S.A.	

Own elaboration

Table 16: Sicence3. Know your world textbook's basic information (Textbook 3)

Textbook 3	Science 3. Know your world	
Grade	3rd Grade	
Publishing house	Teide	
Year	2012	

Own elaboration

4. RESULTS AND DISCUSSION

The results of the three textbooks' evaluation process by means of the template created in this study are exposed below. They have been obtained by analysing in depth each descriptor for each textbook chosen to carry out this study (see annexes) for a further qualification (from "poor" to "excellent") in the following templates.

Table 17: Analysis of Textbook 1 by means of the created template

TEXTBOOK 1	1 Poor	2 Sufficient	3 Good	4 Excellent	SCORE
CONTENT					
1. Textbook's contents are selected following the current autonomous community curriculum.			X		3
2. Textbook's contents are contextualized and take different situations into account.			X		3
3. Textbooks' contents integrate language support.			X		3
4. Textbook's content is accessible for the target group of students.			X		3
5. Textbook provides authentic material.	X				1
6. Textbook includes multimodal input.		X			2
7. Textbook offers activities to build on prior knowledge.	X				1
CONTENT SCORE					**16**
OBSERVATIONS					
COGNITION	1	2	3	4	SCORE
1. Textbook enhances creative and critical thinking by giving opportunities to reflect on their own learning process.		X			2
2. Textbook promotes the progression from LOTS to HOTS.		X			2
3. Textbook fosters new technologies uses.				X	4

4. Textbook offers different learning styles.			X		3
COGNITION SCORE					**11**

OBSERVATIONS	

COMMUNICATION	**1**	**2**	**3**	**4**	**SCORE**
1. Textbook offers comprehensible input.				X	4
2. Textbook provides scaffolding language support.			X		3
3. Textbook tackles the four language skills.				X	4
4. Textbook boosts the Language Tryptic (language of, for and through).		X			2
5. Textbook foster progression from BICS to CALP.		X			2
6. Textbook offers different kinds of grouping to foster communication.	X				1
COMMUNICATION SCORE					**16**

OBSERVATIONS	

CULTURE	**1**	**2**	**3**	**4**	**SCORE**
1. Textbook deals with multicultural perspectives by raising cultural awareness.			X		3
2. Textbook fosters citizenship values.			X		3
3. Textbook boosts new technologies uses.				X	4
4. Textbook enhances communication proposals with other countries' learners.	X				1
5. Textbook's visuals are diverse and free from stereotypical images.				X	4
6. Textbook offers balanced references to student's regional culture and other cultures.		X			2
CULTURE SCORE					**17**

OBSERVATIONS	Cultural aspects are more enhanced in some units than others, depending on the topic it deals with.
GLOBAL SCORE	**60**
GLOBAL OBSERVATIONS	

<div align="right">Own elaboration</div>

Table 18: Analysis of Textbook 2 by means of the created template

TEXTBOOK 2 CONTENT	1 Poor	2 Sufficient	3 Good	4 Excellent	SCORE
1. Textbook's contents are selected following the current autonomous community curriculum.				X	4
2. Textbook's contents are contextualized and take different situations into account.		X			2
3. Textbooks' contents integrate language support.		X			2
4. Textbook's content is accessible for the target group of students.			X		3
5. Textbook provides authentic material.	X				1
6. Textbook includes multimodal input.		X			2
7. Textbook offers activities to build on prior knowledge.	X				1
CONTENT SCORE					**15**
OBSERVATIONS					

COGNITION	1	2	3	4	SCORE
1. Textbook enhances creative and critical thinking by giving opportunities to reflect on their own learning process.	X				1
2. Textbook promotes the progression from LOTS to HOTS.	X				1
3. Textbook fosters new technologies uses.	X				1

	1	2	3	4	SCORE
4. Textbook offers different learning styles.		X			2
COGNITION SCORE					**5**

OBSERVATIONS	

COMMUNICATION	1	2	3	4	SCORE
1. Textbook offers comprehensible input.			X		3
2. Textbook provides scaffolding language support.		X			2
3. Textbook tackles the four language skills.	X				1
4. Textbook boosts the Language Tryptic (language of, for and through).	X				1
5. Textbook foster progression from BICS to CALP.	X				1
6. Textbook offers different kinds of grouping to foster communication.	X				1
COMMUNICATION SCORE					**9**

OBSERVATIONS	

CULTURE	1	2	3	4	SCORE
1. Textbook deals with multicultural perspectives by raising cultural awareness.		X			2
2. Textbook fosters citizenship values.			X		3
3. Textbook boosts new technologies uses.	X				1
4. Textbook enhances communication proposals with other countries' learners.	X				1
5. Textbook's visuals are diverse and free from stereotypical images.		X			2
6. Textbook offers balanced references to student's regional culture and other cultures.		X			2
CULTURE SCORE					**11**

OBSERVATIONS		
GLOBAL SCORE	**40**
GLOBAL OBSERVATIONS		

Own elaboration

Table 19: Analysis of Textbook 3 by means of the created template

TEXTBOOK 3	1 Poor	2 Sufficient	3 Good	4 Excellent	SCORE
CONTENT					
1. Textbook's contents are selected following the current autonomous community curriculum.			X		3
2. Textbook's contents are contextualized and take different situations into account.	X				1
3. Textbooks' contents integrate language support.			X		3
4. Textbook's content is accessible for the target group of students.			X		3
5. Textbook provides authentic material.	X				1
6. Textbook includes multimodal input.		X			2
7. Textbook offers activities to build on prior knowledge.	X				1
CONTENT SCORE					**14**
OBSERVATIONS					
COGNITION	1	2	3	4	SCORE
1. Textbook enhances creative and critical thinking by giving opportunities to reflect on their own learning process.	X				1
2. Textbook promotes the progression from LOTS to HOTS.	X				1
3. Textbook fosters new technologies uses.	X				1

	1	2	3	4	
4. Textbook offers different learning styles.		X			2
COGNITION SCORE					**5**

OBSERVATIONS	

COMMUNICATION	1	2	3	4	SCORE
1. Textbook offers comprehensible input.		X			2
2. Textbook provides scaffolding language support.			X		3
3. Textbook tackles the four language skills.	X				1
4. Textbook boosts the Language Tryptic (language of, for and through).	X				1
5. Textbook foster progression from BICS to CALP.	X				1
6. Textbook offers different kinds of grouping to foster communication.	X				1
COMMUNICATION SCORE					**9**

OBSERVATIONS	The questions proposed do not specify the grouping.

CULTURE	1	2	3	4	SCORE
1. Textbook deals with multicultural perspectives by raising cultural awareness.	X				1
2. Textbook fosters citizenship values.	X				1
3. Textbook boosts new technologies uses.	X				1
4. Textbook enhances communication proposals with other countries' learners.	X				1
5. Textbook's visuals are diverse and free from stereotypical images.			X		3
6. Textbook offers balanced references to student's regional culture and other cultures.	X				1
CULTURE SCORE					**8**

OBSERVATIONS		
	GLOBAL SCORE	**36**
GLOBAL OBSERVATIONS		

<div align="right">Own elaboration</div>

As it is shown in the charts above, some differences arise among the three textbooks analysed. In global terms, the most appropriate Science CLIL textbook based on the 4C's framework is Textbook 1, that is, Science 3 textbook by Edebé, which scores 60 points from a total of 92 points. Despite being the most suitable one, some aspects may be improved such as the content authenticity, the cognition enhancement and the diversity in types of groupings.

With regards to content, the three textbooks have obtained approximately the same punctuation and all of them present similar drawbacks regarding the authenticity of content and prior knowledge enhancement. (please, see Annex 1 for a description of the analysis related to Content in the three textbooks).

As for cognition templates' section, Textbook 1 highly stands out above the others mostly due to the fact that it promotes the use of new technologies, unlike the other textbook which do not make references to online activities. The same is pointed out in terms of communicative features, in which dimension the other two textbooks show important weaknesses, such as few variety in language skills and types of languages in terms of the Language Tryptic and also BICS and CALPS progression. Nevertheless, the most appropriate textbook could also improve in these aspects (please, see Annexes 2 and 3 for a description of the analysis related to Cognition and Communication in the three textbooks).

Finally, with respect to cultural dimension, as it has been highlighted above in the other C's cases, Textbook 1 has obtained better score than the other textbook, but in this case also a difference is present between Textbook 3 and Textbook 2. The latter makes poor references to raise cultural awareness, while in Textbook 3 it is better enhanced. However, the three textbooks coincide in the lack of implying other

countries' students to share experiences and knowledge (please, see Annex 4 for a description of the analysis related to Culture in the three textbooks).

Regarding the CLIL textbooks evaluation template, it is based on the criteria stablished focused on Coyle's 4C's framework. However, as analysed in the previous sections, other CLIL templates have been taken into consideration to modify the present study template.

As for the templates' layout, two of them are based on questions or statements without a grading score, unlike template C. In template C, a scale graded from 1 to 5 is added which have been also added in this study's template. The grading scale was considered an easy, fast and visual manner to evaluate a textbook rather than writing the answer of the questions or writing only a tick or a cross, which it is quite complex, in some cases, to only decide between these two items. Unlike template C, the present study template's scale is graded from 1 to 4 because it was considered enough. Otherwise, in some occasions the more grading levels the more complex the evaluation process.

All the analysed templates include parts concerning 4C's, nevertheless other parts, such as supplementary material or assessment, are also added which have not been taken into account because this study is focused on Coyle's framework. However, some evaluative features have been included in the appropriate C. Furthermore, although most of the templates integrate a section where observations may be noted down during the CLIL textbook evaluation process, except for template C which includes a "Comments" part at the end of it, the template created in this study does. It is considered to be necessary to include a part where the teachers can write their notes down to better adapt the analysis and evaluation to their needs.

As for the Content section, in contrast to the other templates, template A does not take into account the curriculum, which is considered as fundamental in this study template. Besides, it includes questions related to the role of a specific group and teacher, which are not from this study interest. Some of the content descriptors in templates A, B and C are the same proposed in this present study, otherwise, some others, which have not been thought to be part a descriptor, have been included in this study's template. These are content descriptors 4, 5, 6 and 7 (see section 3.2) which make reference to the accessibility and authenticity of content and also take

into account to essential CLIL and inclusive education features: multimodal input and prior knowledge.

Concerning cognitive features, the questions established in template A are not considered appropriate to analyse a textbook. Therefore, none of them are taken into consideration to be added in the study's template. In contrast, in template B and C some descriptors have been considered relevant to be added in the study's template, such as cognition descriptor number 4 (see section 3.2). These templates present other descriptors which have been integrated in the study's template by modifying some criteria, but others have not been considered convenient to include. For example, on one hand template B adds items related to challenging and motivating activities, which mostly depend on the target group or, moreover, to each child interests. For the latter reason, it has not been taken into account. On the other hand, template C makes reference to the cognitive level and progression, which is considered to be dealt when referring to appropriate content.

According to Communication, in template A's case, most of the questions are related to didactic units and lesson implementation in classroom, therefore they cannot be applied to this study. The items which are relevant to this study are the ones which consider the Cummins' Language Tryptic theory, already considered in the criteria developed in the previous section. As for templates B and C, the items proposed can be related to the ones suggested for this study's template, except from the one related to diversity in students' groupings, which has been added to this study's template.

Eventually, with respect to cultural dimension, some CLIL significant issues are mentioned in all the templates as changing cultural classroom awareness and promoting citizenship and multicultural perspective. Despite that all the mentioned aspects have already been taken into account; there are some descriptors which have been considered to be added (see culture descriptors 4, 5 and 6) which refer to raising cultural awareness by means of the textbook's visuals and the presence of other countries and culture references and interaction.

5. CONCLUSIONS

With reference to the main objective of the present study "create an evaluation template in order to analyse CLIL Science textbooks based on the 4C's framework", it can be pointed out that it has been achieved by making a deep research on CLIL fundamentals focused on the 4C's framework and on textbooks' definitions, use and evaluation process as it is shown in the *Literature Framework* section. Besides, an analysis and comparison among three different templates has been carried out in section 3.1 *Methodology* to finally create this study's template which can be found in section 3.2 *Analysis tool* (see table 13). As for the first specific goal stated ("To analyse and compare different CLIL templates"), as highlighted above has been accomplished in section 3.1 *Methodology*.

In regards of the second specific goal which states the following: "to analyse and compare three different textbooks of the same level (Grade 3, Primary Education), regarding the CLIL approach's main principles: Coyle's 4C's framework", it has also been attained by choosing three different textbooks and analysing them using the template created for this study as it can be seen in sections 3.3 *Data collection*, 4 *Results and discussion* and in the Annexes. In the first place, a brief description with basic information of the textbooks is shown by means of tables in section 3.3 *Data collection* (see tables 14, 15, 16). In the second place, a thorough analysis of each descriptor of the template created in this study for each textbook has been carried out as can be seen in the Annexes (see Annex 1, 2, 3 and 4). Eventually, in the third place, a qualification is given to each descriptor in the corresponding template; one for each textbook in order to finally complete the three textbooks' evaluation process in section 4 *Results and discussion* (see tables 17, 18 and 19).

Finally, concerning the third specific goal which is "To select the most appropriate textbook according to their effectiveness and usefulness regarding pre-determined criteria", it has also been achieved once being the three textbooks analysed in the Annexes by means of this study's template, as it is mentioned above, as it is shown in section 4 *Results and discussion*. The pre-determined criteria stated in this objective have been established in section 3.1 *Methodology* taking the Literature review and the previous templates' analysis into consideration.

6. LIMITATIONS AND FURTHER RESEARCH

In spite of the fact that the present study has achieved the objectives stablished at the beginning of its elaboration, some limitations have been encountered during its process. The main drawback has been limiting the number of templates and CLIL textbooks analysed, which may reduce the reliability and usefulness of the creation of this study's template.

Some other encountered limitations may be considered for further study. Firstly, as mentioned in this study the template is based on Science textbooks because it is one of the more common subjects taught by means of this method, but it could also be applied to other subjects taking into account the appropriate content. To be a template specific to Sciences, scientific research could be done and a section with the scientific method and scientific abilities might be added. Moreover, to improve the template and make it more holistic and useful for teachers in order to decide a textbook to use or which parts of the textbook they can take advantage of; other parts could be included such as textbook's supplies, assessment features, learning outcomes and activities' design.

7. REFERENCES

Anderson, L. W. & Krathwohl D. (2001). *A taxonomy for learning, teaching and assessing: a revision of Bloom's Taxonomy of educational objectives*. New York: Longman.

Aregall, J. (2015). *EFL and CLIL: a textbook analysis* (Career's dissertation, Vic, University of Vic). Retrieved from http://dspace.uvic.cat/xmlui/handle/10854/4220

Ansary, H. & Babaii, E. (2002, February). Universal Characteristics of EFL/ESL Textbooks: A Step Towards Systematic Textbook Evaluation. *The Internet TESL Journal*. Retrieved from http://iteslj.org/Articles/Ansary-Textbooks/

Baker, C. (2006). F*oundations of Bilingual Education and Bilingualism.* Clevedon, Multilingual matters LTD.

Catalan Department of Education (2017). *Currículum Educació Primària.* Retrieved from:
http://ensenyament.gencat.cat/web/.content/home/departament/publicacions/colleccions/curriculum/curriculum-educacio-primaria.pdf

Coyle, D. (1999). Theory and planning for effective classrooms: supporting students in content and language integrated learning contexts in Masih, *Learning Through a Foreign Language,* 46-62.

Coyle, D. (2007). Content and Language Integrated Learning: Towards a Connected Research Agenda for CLIL Pedagogies. I*nternational Journal of Bilingual Education and Bilingualism,* 10 (5), 543-562.

Coyle, D., Hood, P. & Marsh, D. (2010). *CLIL. Content and Language Integrated Learning*. Cambridge: Cambridge University Press.

Crockett, L., Jukes, I. & Churches, A. (2011). *Literacy is not enough: 21st century fluencies for digital age*. Moorabin: Hawker Brownlow Education.

Cruces, V. (2015). *Selecting a Science textbook for the CLIL classroom: a checklist proposal* (masters' thesis). Universidad de Oviedo, Oviedo.

Cummins, J. (1984). *Bilingual education and special education: Issues in assessment and pedagogy.* San Diego: College Hill.

Cunningsworth, A. (1995). *Choosing your coursebook*. Oxford: Heinemann.

Czura, A. (2017, January). Translation is not Enough – the Need for Pedagogical Adaptation in CLIL Textbook Development. *Porta Linguarum, 27,* 35-46.

Eurydice European Union (2006). *Content and Language Integrated Learning (CLIL) at school in Europe*. Retrieved from http://www.indire.it/lucabas/lkmw_file/eurydice/CLIL_EN.pdf.

Florit, C & Alberich, J. Unit CLIL checklist. Retrieved from: http://ateneu.xtec.cat/wikiform/wikiexport/_media/cmd/lle/clpi/modul_4 /clil_unit_checklist_ateneu.pdf

Kirkgöz, Y. (2009). Evaluating the English textbooks for young learners of English at Turkish primary education. *Procedia Social and Behavioural Sciences, 1*, 79-83.

Litz, David R. A. (2000). Textbook evaluation and ELT management: a South Korean case study. *Asian EFL Journal.* Retrieved from https://www.asian-efl-journal.com/Litz_thesis.pdf

López-Medina, B. (2016). Developing a CLIL textbook evaluation checklist. *LACLIL, 9*(1), 159-173. doi:10.5294/laclil. 2016.9.1.7

Marsh, D. (2002). CLIL/EMILE-The European Dimension: Actions, Trends and Foresight Potential. Strasbourg: European Commission.

Martín del Pozo, M. A., Rascón Estébanez, D. (2015). Textbooks for Content and Language Integrated Learning: policy, market and appropriate didactics?. *Foro de Educación*, 13(18), pp. 123-141. doi: 10.14516/fde.2015.013.018.007

Meyer, O. (2010). Towards quality CLIL: Successful planning and teaching strategies. *Pulso*, 33, 11-29.

Prensky, M. (2001, October). Digital Natives, Digital Immigrants. *On the Horizon*, 9 (5), .Retrieved from: https://www.marcprensky.com/writing/Prensky%20-%20Digital%20Natives,%20Digital%20Immigrants%20-%20Part1.pdf

Richards, J. (1998). *Beyond training*. Cambridge: Cambridge University Press.

Sheldon, L. (1988). Evaluating ELT Textbooks and Materials. *ELT Journal (42) (2),,* 237-246. Retrieved from:

http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.473.7638&rep=rep1&type=pdf

Ur, P. (2015). *A Course in English Language Teaching*. Cambridge: Cambridge University Press.

Wen-Cheng, W., Chien-Hung, L. and Chung-Chieh, L. (June 2011). Thinking of the Textbook in the ESL/EFL Classroom. *Canadian Center of Science and Education,4 (2),* 91-96.

Zaparucha, A. (2009). A case for geography and English integrated studies. *Proceedings of the HERODOT Conference*, 93-98.

8. ANNEXES

Annex 1.Textbooks' analysis for Content descriptors

1. Textbook's contents are selected following the current autonomous community curriculum.

Table 20: Analysis of the several Blocks of Contents tackled in each textbook (see Table 1)

	Blocks of Contents							
	1	2	3	4	5	6	7	8
Textbook 1	x	x	x	x	X	x		
Textbook 2	x	x	x	x	X	x	x	x
Textbook 3	x	x	x	x		x		x

Own elaboration

2. Textbook's contents are contextualized and take different situations into account.

Textbook 1: almost all the contents include exercises to relate them to students' own social and natural environment, as shown in the pictures below. Besides, in some topics, exercises about other environments are included, for example, the City of London one.

Textbook 2: In some parts of the textbook, some references are made to different cultures. However no specific content related to diversity is dealt with and, moreover, the textbook does not offer exercises to contextualise the content to pupils' surroundings.

Textbook 3: only a few exercises where students are asked to link the contents learnt in the school to their own situations at home have been found. What's more, there is little presence of pupils' own country different situations; the exercises found which deal with these features are shown below.

3. Textbooks' contents integrate language support.

Textbook 1: this textbook introduces new vocabulary always with the appropriate picture or drawing. It also offers some vocabulary boxes with definitions.

Textbook 2: it includes lots of images and conceptual maps to introduce vocabulary, but they go with quite long written explanations.

Textbook 3: this textbook tackles new vocabulary with pictures, drawings and diagrams, accompanied with some appropriate written explanations.

4. Textbook's content is accessible for the target group of students.

According to the target group of students this study is concerned (3rd Grade) and the Catalan Primary Education curricula content for this group. Although not all the curricular contents are dealt through these textbooks, the contents tackled are appropriate for the target group.

5. Textbook provides authentic material.

Textbook 1: the texts in this textbook have been written taken into account the target group and it does not include authentic texts. Only some of the pictures are authentic, such as maps.

Textbook 2: the texts in this textbook have been written taken into account the target group, but does not include authentic texts.

Textbook 3: the texts in this textbook have been written taken into account the target group and it does not include authentic texts.

6. Textbook includes multimodal input.

Textbook 1: each lesson is provided with the same structure in which a couple of audio tracks and a video are included. Most of the input is written and with labelled images.

Textbook 2: each unit is organised with a similar structure in this textbook. In every unit's lessons two listening exercises are included (a pronunciation exercise and a

quiz). In some units a chant or a song are also incorporated. Besides, at the end of each unit a listening exercise to revise the content learnt is added. Some boxes with written information are contained in the units which can also be listened with the books' audio CD. The textbook does not contain videos. Most of the input is through text accompanied with images.

Textbook 3: this textbook offers written input with images and it also includes audio CD with which all the written texts can be listened in an aural way.

| 7. Textbook offers activities to build on prior knowledge |

Textbook 1: at the beginning of every module and every lesson some questions are proposed which make reflect children on knowledge which is going to be learnt on that lesson or module. However, it does not refer specifically to students' prior knowledge.

Textbook 2: this textbook does not include any reference related to prior knowledge.

Textbook 3: this textbook does not include any reference related to prior knowledge.

Annex 2. Textbooks' analysis for Cognition descriptors

| 1. Textbook enhances creative and critical thinking by giving opportunities to reflect on their own learning process. |

Textbook 1: it offers exercises to make students reflect and share opinions about the content being learnt, but not about their own learning process. The most creative part of this textbook is the part "The Challenge" part in which children need to create something, such as an instrument or an "earthship".

Textbook 2: this textbook is organised in a way that in each unit's lessons an oral quiz may be answered by every pupil in order to check their learning. Nevertheless, it is related to content, not to their own learning process' progression

Textbook 3: it offers exercises to make students reflect about the content being learnt, but not about their own learning process.

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2. Textbook promotes the progression from LOTS to HOTS.

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Textbook 1: Several types of exercises are mixed and do not follow a cognitive progression. Furthermore, most of the exercises proposed in the textbook are related to LOTS (the majority related to apply the content to their own quotidian situations) and there is little presence of the last levels of HOTS (evaluate and create). However, at the end of every module, "The Challenge" section is proposed in which most of the Bloom's taxonomy levels are taken into account in the same activity to finally create a product

Textbook 2: this textbook is provided with several exercises, the most of them related to LOTS. Higher order thinking skills are not enhanced in it.

Textbook 3: this textbook does not offer explicit exercises but it proposes several questions in each unit to make students reflect on the comprehension of the knowledge dealt with in it. Therefore only LOTS are promoted. At the end of the textbook, a more global activity is suggested where students are asked to make an interview as a tool to find information about the past.

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3. Textbook fosters new technologies uses.

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Textbook 1: in almost every lesson an online activity is enhanced. In some others, such in the animals' lesson four different online exercises are proposed. Some are about reading a text or watching a video, and some others imply students doing a more interactive activity. Moreover, in "The Challenge" section, a part of research is always included in which several websites are proposed to find out information in a digital way.

Textbook 2: in this textbook, no reference is mentioned about the use of new technologies, online activities are not included in it.

Textbook 3: in this textbook, no reference is mentioned about the use of new technologies, online activities are not included in it.

Textbook 1: the learning styles tackled in this textbook are visual (by images and videos), aural (audio CD) and verbal (written texts). Besides, some implicit physical style could be included in some of the experiments proposed in the textbook.

Textbook 2: the learning styles dealt with in this textbook are visual (by images), aural (audio CD) and verbal (written texts, which constitute the majority of the textbook). Besides, some implicit physical style could be included in some of the experiments proposed in the textbook

Textbook 3: this textbook enhances visual (by images), aural (the same written texts can be also listened orally) and verbal (written texts).

Annex 3. Textbooks' analysis for Communication descriptors

1. Textbook offers comprehensible input.

Textbook 1: both written and oral input consists of short and simple sentences and, in the written case; they always go accompanied with a picture, drawing or diagram to make the text more comprehensible.

Textbook 2: both written and oral input consists of short and simple sentences, but a bit longer texts than in the textbook described above. Moreover, in the written case; most of the texts go accompanied with pictures.

Textbook 3: both written and oral input consists of short and simple sentences, but too long texts for the target group. In the written case; texts always go accompanied with pictures.

2. Textbook provides scaffolding language support.

The same as Content descriptor: nº 3.

3. Textbook tackles the four language skills.

<u>Textbook 1</u>: the four language skills are enhanced in this textbook, all to a similar extent.

<u>Textbook 2</u>: the most promoted skills in this textbook are: written comprehension and expression. As for oral comprehension, it is less enhanced and oral expression is only proposed in comparing the results of the experiments suggested.

<u>Textbook 3</u>: Written comprehension is mostly enhanced in this textbook. Regarding oral comprehension is not really promoted because it is only listening to the same information that is written. As for the rest of skills, they are less or not tackled.

4. Textbook boosts the Language Tryptic (language of, for and through).

<u>Textbook 1</u>: the type of language which is most enhanced is language of. Language for is also considered in this textbook, but in a lower measure.

<u>Textbook 2</u>: Language of is deeply boosted in this textbook, but not the other types.

<u>Textbook 3</u>: Language of is deeply boosted in this textbook, but not the other types.

5. Textbook foster progression from BICS to CALP.

<u>Textbook 1</u>: it offers activities that promote the use of BICS and CALP but there is not any specific support for the language and structures students should use.

<u>Textbook 2</u>: the language needed in the exercises suggested in this textbook are all related to CALP, but there is no progression from BICS to CALP and, what's more, no scaffolding is included to carry them out.

<u>Textbook 3</u>: the language needed in the exercises suggested in this textbook are all related to CALP, but there is no progression from BICS to CALP and, what's more, no scaffolding is included to carry them out.

6. Textbook offers different kinds of grouping to foster communication.

<u>Textbook 1</u>: almost all the exercises are thought to be carried out individually.

Textbook 2: almost all the exercises are thought to be carried out individually.

Textbook 3: the questions proposed in this textbook are not specified whether they are thought to be answered individually, in pairs, in little groups or to discuss together with the large group.

Annex 4. Textbooks' analysis for Culture descriptors

1. Textbook deals with multicultural perspectives by raising cultural awareness.

Textbook 1: other cultures are taken into account as it is shown in the textbooks' pictures and drawing. Moreover, it is explicitly treated in the module which deals with the places where we live and the people we live with.

Textbook 2: cultural awareness is deeply reflected in the unit "Living together", but little mention is made in the other units. However, it is shown in the images.

Textbook 3: different cultures are reflected in the pictures of this textbook. Despite of this fact, there is not a specific part of the textbook with the objective of raising awareness.

2. Textbook fosters citizenship values.

Textbook 1: citizenship is boosted while dealing with energy, ecosystems and the place where we live.

Textbook 2: these values are tackled in the corresponding unit and at the beginning of each unit.

Textbook 3: it does not explicitly foster citizenship.

3. Textbook boosts new technologies uses.

This descriptor has been discussed in Cognition descriptors: nº3.

4. Textbook enhances communication proposals with other countries' learners.

Textbook 1: there is no reference to other countries' learners.

Textbook 2: there is no reference to other countries' learners.

Textbook 3: there is no reference to other countries' learners.

5. Textbook's visuals are diverse and free from stereotypical images.

Textbook 1: different cultures and genders are shown in the images.

Textbook 2: some of the pictures reflect several genders and cultures.

Textbook 3: the pictures are diverse and reflect several genders and cultures.

6. Textbook offers balanced references to student's regional culture and other cultures.

Textbook 1: the references are balanced in the visual aids and in the unit dealing with families, but not specifically in the others.

Textbook 2: other cultures are mostly tackled in the unit devoted to it.

Textbook 3: this textbook mostly refers to regional culture