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"TURNING TABLES: A VINDICATION OF THE NEED OF TEACHING

GRAMMAR IN CLIL LESSONS "

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I would firstly like to convey my gratitude and admiration to my tutor, Ismael, who has trusted in my beliefs and views from the very beginning. I must extend a word of thanks to my parents, my sister and my closest friends, who are my rock and salvation. And of course, to my beloved students, from whom I learn every day.

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1   INTRODUCTION: CONTEXTUALIZATION AND AIMS

1.1   Statement of the problem

The teaching of L2 grammar or anything related to its boundaries has always been a matter of controversy among practitioners, regardless of whether they were teachers, linguists or researchers, and it is still the case. Together with this concern, authorities in the European Union have taken measures and initiatives to foster and standardise the learning of foreign languages, and it is in this context that the well-known approach of *Content and Language Integrated Learning (CLIL)* has emerged and nowadays it is "perhaps the most frequent modality of bilingual education in Europe" (Martín del Pozo, 2016: 142). Nearly all the Member States have incorporated it into their educational systems and Spain does not want to get left behind. Findings from research attest to the better results obtained by students in CLIL programmes as compared to those in non-CLIL programmes (Martínez-Adrián & Gutiérrez-Mangado, 2015), but some questions remain unresolved. It should also be acknowledged that learners, being at the centre of the whole issue, are part and parcel of this dissension.

Grammar has occupied different positions in the history of foreign language teaching. For this reason, it is very interesting to make a review of the problem in perspective, bearing in mind the past and current controversial debates on the role that grammar plays in classroom contexts. In this line, it is noteworthy to mention that this whole dispute with grammar has evolved around a series of dichotomies, but the one that is of most interest to our dissertation is that which puts in a balance communication and grammar – that is, fluency, on the one hand, and accuracy on the other (López & Luque, 2012). This dichotomy runs throughout the different ways of approaching and delivering grammar instruction, which are broadly divided into two categories: traditional grammar teaching and communicative language teaching, the former giving primacy to accuracy and the latter to communication, where CLIL deserves special attention.

The 1980s marked a decisive turning point in this respect, with authors like Stephen Krashen at the heart of it, who embodied the so-called "anti-grammar movement" (Hedge, 2001: 143). Added to this, and prior to Krashen, we find Corder and his idea that learners had their own built-in syllabus for learning grammar. Krashen supported the idea that one could become a competent user of grammar without focusing on linguistic forms; or, in other words, no explicit teaching of grammar was needed in the language classroom.

However, those who thought that grammatical accuracy and grammar instruction were indeed of paramount importance confronted this view, reasserting the role of grammar in formal contexts. One of the most prominent researchers sustaining this view is Ellis (2006: 86), who holds that "there is now convincing indirect and direct evidence to support the teaching of grammar" – and in the present study, we do support it too. Furthermore, there are empirical studies that prove that the explicit teaching of grammar rules do contribute to the acquisition of a foreign language (e.g., Scheffler & Cinciala, 2010).

Taking these factors into consideration, many different approaches have been developed during the past few years to the teaching and learning of grammar and we notice that the dichotomies inductive/deductive, implicit/explicit are inherent to them all. These terms are of special interest if we want to defend or deny the importance of grammar in the foreign language classroom. Again, there are both supporters and detractors for each of them, but there is also a middle ground, a blending of extremes that makes an effort to leave purely explicit/deductive or implicit/inductive approaches aside. Of course, the grammar debate is far from being solved and we do not intend here to give a magical solution, but simply to provide the reader – and both students and teachers-to-be – with a viable approach, taking into account not only the benefits of integrating content and language, but also the explicit teaching of grammar.

Whether or not to teach grammar and whether to use one approach or the other are inquiries that lie at the heart of Second Language Acquisition (hereafter SLA) and Cognitive Psychology, which are the paramount fields of research that try to solve these questions. With the revival of the importance of grammar in recent years, one concept has been very influential: *focus on form* (FonF), or *form-focused instruction* (FFI). In this way, it is expected that if teachers use techniques that push the student to focus on form and encourage grammar awareness, the student will learn the rule. If this focus on form (that is, grammar) is immersed in the framework of a real task – a task that resembles real life, or a real activity that the student can see in his daily life –, the communicative competence of the learner is also enhanced, since the student is concentrated on getting the meanings right. He will have the help of the rule he had studied and the real context in which the rule is inserted, targetting both language and content.

1.2   Motivation for the research

The major motivation that lies behind my determination to research on the topic of the learning and teaching of grammar in the CLIL approach is my dissatisfaction and disenchantment with the way I was taught grammar during my formative years at school and high school, on the one hand, and what I experience as a foreign language high school teacher, on the other. I was given tones of grammar rules, which were introduced by means of endless explanations that may well appear to be a course on abstraction. Those rules were followed by several tedious exercises that were not less impractical, regardless of the fact that many of the examples provided were out of context. This specific motivation is closely linked to how bilingual programmes are implemented in our education system. Therefore, the debate around changing the status of grammar in formal contexts, or at least the way in which it has traditionally been implemented, could be extrapolated to the way languages are experienced in our English lessons.

Moreover, it could be said that the learner is seen as a passive agent who simply receives and processes all the information but who does not have the opportunity to use it in real contexts. But I do think that students deserve a better position in the pyramid, since they are potential users of the language and, ideally, one wishes to instruct future competent speakers. Thus, I would like to call for a system that advocates the autonomy of the learner, providing him with the chance to use and practice real language in real situations, not just in closed sets of sentences. Besides, what are languages for if not for communication? CLIL advocates for implicit learning, and I feel that DNL teachers sometimes fear that grammatical accuracy could be highly frustrating for L2 learners and many of them finally desist from their effort to learn. I believe that putting an emphasis on fluency and communication raises students' inner motivation to learn a language and works on their intellectual awareness, concentrating their efforts in conveying a message, which is, in short, the purpose of any language. But can communicative fluency be improved by better grammar learning?

In much the same way, it can be said that the traditional way of teaching and learning languages in general – and grammar in particular –has not worked so far in Spain to fulfill European expectations. It is obvious that, to a certain extent, we do need grammar to communicate; not only this, it is essential and present in all the skills of a language. This means that accuracy can be the basis for communication, but running away from hypercorrections and excessive control of the discourse, as I do believe that error should be

permitted as long as they do not impede communication. It is not a question of how accurate the learner is, but if the message is understood.

As it was said before stating the problem of this dissertation, there have been many different approaches to grammar, but most of them have put too much emphasis on one side of the coin (either grammar or communication) and have forgotten the other one or, at least, they have minimized it significantly. That is, teachers have been dealing with opposite poles when teaching grammar and, consequently, students have suffered the outcomes of extremes. There is a necessity to keep the best of each approach, to recognise their strengths and weaknesses and to always bear the student in mind. And here is where CLIL comes to play. If one chooses a middle ground, an approach that focuses on form but in the context of communication, not only will the student improve skills, but the teacher will also reinforce his achievements, since these are mostly twofold: students' practice of both form and communication.

1.3   Aim and research questions

With the statement of the problem presented and the motivations for the research explained, it follows that the aim of such research is to offer a moderate position in which CLIL can better integrate the teaching of grammar. Firstly, the history of CLIL will be presented, from Europe to Spain, and an attempt is made at comparing CLIL with Content-Based Instruction, Bilingual Education, and Immersion Education. Secondly, the CLIL approach is examined, together with its conceptual framework. Then, we will try to find solid arguments from research in order to prove that CLIL is beneficial, having a look at some specific studies related to the topic under consideration. Before outlining L2 methodologies and making a case for the suitability and necessity of form-focused instruction in the classroom, some relevant insights from the fields of Second Language Acquisition and Cognitive Psychology are presented.

In conclusion, the object of study in this literature review is to try to show whether more attention to form in the CLIL approach is feasible or not in the classroom. With this purpose in mind, extremes will be left aside. And by doing so, we will aim at proving that the traditional dichotomies that have divided theoreticians and practitioners throughout the history of ELT – namely, implicit/explicit, inductive/deductive, etc. – can be mingled to offer advantages to the classroom. In other words, that one can find benefits for both teachers and learners in these poles. Together with this, the study will seek to integrate a focus on form within a communicative environment. Again, a balance between accuracy

and fluency is called for; an approach that emphasises the learning of grammar without hindering meaningful communication.

Accordingly, with this aim and purpose in mind, our research questions will be the following ones:

1. What is the place of grammar in CLIL contexts?

2. Can a didactic unit incorporate CLIL and focus on both content and language accordingly?

2   CLIL: ITS HISTORY

2.1   Antecedents: Canadian Immersion, North American Bilingual Education, International Schools and British LAC Programmes

Researchers coincide in the fact that French immersion programmes and bilingual teaching models in North America are considered to be the direct antecedents of CLIL (Costa & D'Angelo, 2011; Pérez-Cañado, 2011; Hanesová, 2015; Jaén Campos, 2016, among others). These two countries are known to have a prevalent custom of bilingual education. By the year 1965, one of the first initiatives came to light when a group of parents who were all native speakers of English living in Quebec, Canadian French territory, fought for a programme which provided their children with equal academic opportunities[1]. New initiatives emerged with the aim of immersing students in a different language from their mother tongue; these courses were optional and in them, children enrolled learnt school subjects in French. English-speaking students were not apart, as they shared classes with French-speaking children. This Canadian design followed the principles of a *one-way immersion* programme of a non-native language (Hanesová, 2015). Research on the outcomes of these are numerous, and they are "extremely revealing for the design and implementation of programmes in Europe" (Pérez-Vidal, 2007: 44), an issue which will be discussed later in this section.

The same can be said in regard to the inheritance of bilingual education in North America, with groundwork dating back to the 1970s (i.e. Lambert & Tucker, 1972), the 1980s (i.e. Swain & Cummins, 1982; Dulay, Burt & Krashen, 1982; Willig, 1985; Cummins & Swain, 1986; Genesee, 1987; Lyster, 1987; Cummins, 1989), and the 1990s (Lapkin, Hart & Swain, 1991; Krashen, 1996, 1997, 1999; Greene, 1997, 1998). European

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[1] See Baker (1993) for a comprehensive historical review

international schools have also been explored in this line, predominantly by Hugo Baetens Beardsmore and his colleagues; still, investigations are "not backed up by a comparable body of research" (Pérez-Cañado, 2011: 317). In any case, the results that are on the table today show that the practice conducted in these schools are tremendously positive.

Finally, it is worth to mention the Language Across the Curriculum (LAC) movement which originated in London in 1966 thanks to a group of English secondary teachers who reflected upon the usefulness of discussion in their classes; this idea "proved to be a coherent, alternative view of learning **through** language" (Hanesová, 2015: 9; my emphasis), which rapidly spread through England, Canada and Australia.

With this backdrop in mind, and having scrutinized an extensive amount of research on the topic, we can safely conclude from the precursors of CLIL that bilingual education has had a remarkable impact on (mainstream) education. By the same token, and thinking along the same lines as Genesee (1994) or Marsh (2002), it is agreed that second language teaching and learning that is combined with content instruction has shown to be more effective and more productive than second language instruction alone, and even more if we consider our personal commitment as language teachers to maximise resources in the classroom. Let us now move on to the origin of the term and some practical definitions.

2.2   Towards CLIL: emergence of the term and definitions

Providing a single definition of CLIL is easier said than done, given that "there is a lack of cohesion around CLIL pedagogies [and] there is neither one CLIL approach nor one theory of CLIL", as highlighted by Coyle (as cited in Deusen-Scholl & Hornberger, 2008: 101), perhaps the most influential authority on the topic. The acronym was coined by David Marsh in the year 1994, who masters the area of multilingualism and bilingual education, and first launched by UNICOM, the Finnish University of Jyväskyla, together with the European Platform for Dutch education (Marsh, Maljers & Hartiala, 2001; Pérez-Cañado, 2011; Fortanet-Gómez & Ruiz-Garrido, 2009; Marsh & Langé, 2006; Wolff, 2012; Cenoz, Genesee & Gorter, 2014). Marsh based this concept precisely on the ideas and traditions of Canadian immersion and British LAC programmes, and in its earliest conception it was used to the teaching of a number of subjects to students through a foreign language – and this is, by and large, how it is conceived by the majority nowadays.

When dealing with the evolution of CLIL in our continent, Marsh (2012: 1) lays emphasis on the fact that:

The European launch of CLIL (…) was both political and educational. The political driver was based on a vision that mobility across the EU required higher levels of language competence in designated languages than was found to be the case at the time. The educational driver (…) was to design and otherwise adapt existing language teaching approaches so as to provide a wide range of students with higher levels of competence.

From 1994 onwards, CLIL was established as a term used for the integration of both content and language education throughout Europe. As it was mentioned earlier, efforts to arrive at a precise definition have proliferated since the 1990s, and some have been more fruitful than others, but it is perhaps the generative characterization offered by Marsh and Langé (2000) which lays de foundation for the subsequent interpretations. The definition was accepted by the Eurydice Report in 2006 and reshaped on many occasions, until it appeared in the European Framework as "a dual-focused educational approach in which an additional language is used for the learning and teaching of content and language with the objective of promoting both content and language mastery" (Marsh, Mehisto, Wolff & Frigols-Martín, 2010: 1).

In 2002, he already pointed out that it "refers to situations where subjects or parts of subjects are taught through a foreign language with dual-focused aims, namely the learning of content and the simultaneous learning of a foreign language" (Marsh, 2002: 15). Three years later, he advocates that CLIL is "a general 'umbrella' term to refer to diverse methodologies which lead to dual focused education where attention is given to both topic and language of instruction" (Kovács, 2014: 48-49). This means that CLIL embraces assorted variants and approaches (Hondris, Vlahavas & Demetriadis, 2007; Marsh, 2008; Jaén Campos, 2016). Mehisto, Marsh and Frigols (2008: chapter 1) include the following: 'language showers' ("students who receive between thirty minutes and one hour of exposure per day [including] the use of games, songs, many visuals [or] realia" (2008: 13), CLIL camps, exchanges among students, international and local projects, family stays, modules, work-study abroad, one or more subjects, and a range of immersion types, like partial, total, two-way, and double immersion. Nonetheless, for these to be all exclusively part of CLIL is ambitious, considering that they do not share the same characteristics.

The many 'faces' of CLIL are so widespread that, when we come to practice and our everyday routines in the foreign language classroom, it is difficult to think of any activity or task that could not possibly be regarded as CLIL; Cenoz et al. (2014: 246) conclude that "such an inclusive conceptualization of CLIL makes it so general as to lack practical or theoretical utility", an idea supported by others, as this 'umbrella' perception is hindering the demand "to pin down the exact limits of the reality that this term refers to" (Alejo & Piquer-Píriz, 2016: 220) and, by extension, to differentiate between what we could call

appropriate CLIL learning environments and non-CLIL learning environments. Several experts in the subject are well aware of this plight: Coyle (as cited in Marsh & Wolff, 2012: 49) acknowledges that "there is neither one model which suits all CLIL contexts nor one approach to integrating content and language teaching"; Marsh (2008: 233) that "applications of CLIL are multifarious", and Dalton-Puffer, Nikula and Smit (2010: 3) highlight that it "has acquired some characteristics of a brand name (…): innovative, modern, effective, efficient and forward-looking", to name but a few. In relation to methodologies too, Coonan (2007: 23) argues that "CLIL is an educational path, more or less lengthy, characterised by strategic, structural-methodological choices that aim at ensuring a non-linguistic dual integrated learning (…) by students who learn through a non-native language" and Lorenzo (2007: 28) adds that "CLIL is linked to (…) a new methodology of language teaching".

These three last definitions are interesting, insofar as the one that appeared in the European Framework does not specify how to put into practice the "dual focus" into a proper methodology, as noted by Wolff (2012). A residual problem of Marsh's definition is that this dual role of both language and content has been interpreted in many different ways; for some experts, it "advocates a 50:50 (…) equilibrium" (Ting, 2010: 3), whereas it should be acknowledged that this is a real challenge, as research demonstrates (Dalton-Puffer, 2007). Marsh (as cited in Cenoz et al., 2014: 245) insists that there has to be a dual focus on language and content for it to be called CLIL "even if the proportion is 90 per cent versus 10 per cent"; as a consequence, Cenoz et al. (2014: 245) conclude that "such a flexible definition makes CLIL very broad, but arguably overly inclusive and at the expense of precision". At any rate, from my personal point of view, this integrative nature of CLIL should and must be appreciated.

Two other grounds for dispute are also the introduction of CLIL as an educational approach and the term 'additional language'. With reference to the former, it has been labelled as "a pedagogic tool" by Coyle (2002: 27) or as "essentially methodological" by Marsh (2008: 244), for example; furthermore, it is extended to the school curriculum as a whole, retrieving the tradition of the British LAC movement and making it "flexible regarding curricular design and timetable organization" (Baetens Beardsmore, 2002, as cited in Cenoz et al., 2014: 245), but Coyle cautions against misinterpreting this curricular link, because there has to be 'additional language' used as a medium of instruction, that is, a school project alone does not suffice.

In connection to this, Wolff says that the controversial notion of 'additional

language' "can be misinterpreted and (…) lead to a rather narrow understanding of CLIL and its real potential" (2012: 108). Marsh (2002) conceived it as any language other than the students' first language, including then a foreign language, a second language, or even a minority language, a view that is shared by Coyle, for instance. However, CLIL is chiefly and almost exclusively associated to English. Other Western languages are also employed, like German, French or Italian; Eastern European languages, like Polish or Russian; and Chinese and Japanese CLIL initiatives are also put into practice.

What is clear is that, if we compare this methodology to a traditional approach to foreign language teaching and learning, content itself is pivotal. Teaching CLIL is primarily content subject teaching and learning and it is often called "language-sensitive content teaching" (Wolff, 2012: 108) accordingly, imbibing from second language acquisition research, cognitive psychology and constructivism. Pérez-Cañado (2016: 11) also underlines that "the emphasis on both teaching and content points to the very hallmark of CLIL". And if it is to promote both content and language, this approach needs clear-cut competences for both the language subject and the content subject – the extent to which content and language are integrated will be dealt with in another section later on. Thus, teachers are required to sacrifice individual convictions based on subjects as separate entities and join forces. In this respect, CLIL is clearly unique and deserves its own place in our curricula. Accordingly, it is coherent to conclude, to paraphrase Cenoz et al. (2014), that CLIL may be a historical milestone, but it is not pedagogically unique – Pérez-Cañado (2016: 14) alludes to its "plethora of models or variants". It is high time that we address the debate on the similarities and differences between this approach, bilingual education and immersion education to present the full picture.

2.3 The controversy in establishing boundaries between CLIL, Content-Based Instruction, Bilingual Education and Immersion Education.

It is clear that CLIL is a "well-recognized and useful construct for promoting L2/foreign language teaching" (Cenoz et al., 2014: 16), but as it has been considered, it is very complex, if not impossible, to locate its exact limits. CLIL has been disputed for having a "convenient vagueness" (Bruton, 2013: 588) and an "ill-defined nature" (Paran, 2013: 318) – to be more illustrative, one of the most important contributions to the field is Costa and D'Angelo's *CLIL: A Suit for All Seasons* (2011). Actually, as reported by Paran (2013: 319), it is "afflicted with a high lack of terminological clarity, starting with the confusion between CLIL, CBI and Immersion Education", a challenge also addressed by Pérez-Vidal

(2013) or Dalton-Puffer, Llinares, Lorenzo and Nikula (2014), among others. In this way, the prevailing trend was to refine – if that was possible – the main features which distinguish it from other types of approaches. According to Pérez Cañado (2016), these involve the language used in instruction, the languages that are taught through CLIL, the methodology employed, the language level that is targeted, the linguistic command of teachers, the amount of exposure to the language in question, and the variety of materials employed. Conversely, Cenoz et al. (2014: 1), for instance, contend that "attempts to define CLIL by distinguishing it from immersion approaches to L2 education are often misguided".

In a similar vein, Cenoz and Ruiz de Zarobe (2015) or Hüttner and Smit (2014), concentrate on the similarities between CLIL, immersion education, and CBI, rather than on what differentiates them, calling for a merging of extremes and trying to avoid "a detailed, theoretically 'tight' definition of what is (not) CLIL" (Hüttner & Smit, 2014: 164). Cenoz et al. (2014: 247) remind us that the "adoption of the term CLIL in the beginning was linked to the rejection of the term immersion" and call again attention to the fact that there is a great deal of ambiguity and *obscurity* about the extent to which they are interrelated.

The similarities between CLIL and immersion education are detailed by Cenoz et al. (2014), and further discussed by Pérez-Cañado (2016) above, and they eventually conclude that it is "difficult, if not impossible, to identify features that are uniquely characteristic of CLIL in contrast with immersion education" (Cenoz et al., 2014: 13), and the same can be said when comparing CLIL and CBI, provided that "some consider CLIL to be the same as CBI and, thus, immersion, which is clearly a form of CBI" (Cenoz et al., 2014: 11). Still, following Dalton-Puffer et al. (2014) or Lasagabaster and Doiz (2016), for instance, there are more differences between immersion education and CLIL, namely, the poorer level that CLIL teachers in general have in the language of instruction, the fact that CLIL students are not as exposed to the target language as immersion students, the CLIL content is taken from academic subjects, the materials employed in CLIL lessons are not authentic, and there are fewer immigrant students in CLIL contexts.

In addition, the sole difference can be found in the target population: "CLIL and CBI can be considered synonymous. The former is used more frequently in Europe while the latter has gained more popularity in the United States and Canada" (Ruiz de Zarobe, 2008: 61). As Coyle (2006, 2007, 2009) and Coyle, Hood and Marsh (2010) hold, its uniqueness relies on the fact that it accommodates language and content along a continuum, flexibly

and dynamically, that is, one cannot exist without the other. In sum, it is commonly sustained that the prototypical properties of CLIL and CBI are alike. If there are any differences to mention, these would be "accidental", as Cenoz (2015) points out, and they refer to the particular educational contexts and intrinsic characteristics of the school where the programmes are implemented. Lorenzo (2007: 27) sums it up succinctly: "[CLIL] is not just a new expression of educational bilingualism. The time when it has appeared, the places where it has been adopted and the learning theory behind it turns CLIL into a successful attempt at language and social change in 21st century Europe". To this tenet, Pérez-Cañado (2016: 14) adds that:

> The onus is now on recognizing the diversity of formats which can be subsumed within CLIL and on ensuring that the results and effects of all types of multilingual programs (be they CLIL, CBI or immersion) are shared so that the pedagogical and research community can benefit from them.

The debate as to whether CLIL and CBI stand for different approaches is also examined by Spada (2017). She remarks with some contend that in CLIL, language and content are far more integrated than in CBLT, although she informs that "it has not been demonstrated empirically" (Spada, 2017: 6). She goes on to say that she knows "of no research that has systematically compared how language and content are integrated more (or less) in CLIL versus CBLT" (Ibid.), coming to the conclusion that there are many more similarities than there are differences.

2.4   The growth of CLIL in Europe: milestones and the path to Spain

In order to understand the present situation of CLIL, we have to travel back in time and refer to a number of European milestones which have permeated all areas of education, including Spain, as could not be otherwise. In 1995, the European Commission envisaged the needs of the changing European society in terms of learning demands in *Teaching and Learning: Towards the Learning Society. White Paper on Education and Training*. Here, the 'mother tongue plus two other languages' is set up among the most outstanding *ambitions*, and the importance of learning languages from a young age is advocated:

> In order to make for proficiency in three Community languages, it is desirable for foreign language learning to start at pre-school level. It seems essential for such teaching to be placed on a systematic footing in primary education, with the learning of a second Community foreign language starting in secondary school. (1995: 44)

And it is furthermore added that "it could even be argued that secondary school pupils should study certain subjects in the first foreign language learned" (1995: 44).

Five years later, in March 2000, the European heads of state and government (the European Council) launched the *Lisbon Strategy* with the purpose of remodelling the

European Union into "the most competitive and dynamic knowledge-based economy in the world (…) by 2010" – this strategy was then succeeded by the *Europe 2020 Strategy*. The key role played by learning languages was already stressed to foster employment, social cohesion and modernise education systems as a whole, and it is for this reason that the Council of Europe and national and local governments have made their respective efforts to boost and revitalise foreign language proficiency and intercultural skills. With respect to this, the *Common European Framework of Reference for Languages (CEFR)* is worth mentioning, which was put into action in 2001 as a powerful tool for the standardization of language levels and the evaluation of communicative competence across Europe.

After this proposal, the Commission of the European Communities designed an Action Plan to strengthen the guidelines in the CEFR, under the title *Promoting Language Learning and Linguistic Diversity*. The key in this Action Plan is that CLIL is announced as the most adequate tool to acquire communicative skills:

> Content and Language Integrated Learning (CLIL), in which pupils learn a subject through the medium of a foreign language, has a major contribution to make to the Union's language learning goals. It can provide effective opportunities for pupils to use their new language skills now, rather than learn them now for use later. It opens doors on languages for a broader range of learners, nurturing self-confidence in young learners and those who have not responded well to formal language instruction in general education. It provides exposure to the language without requiring extra time in the curriculum, which can be of particular interest in vocational settings. (2003: 8)

What is relevant about CLIL, therefore, is that it is a European construct, as pointed out by Pérez-Vidal (2009, 2013); she talks about the goal of a multilingual Europe and CLIL as the means to achieve it. Indeed, CLIL is defined in the report of the aforementioned Action Plan as "teaching a subject through the medium of a different language, attaching equal importance to developing proficiency in both the language and the subject concerned" (2007: 4), coinciding with the many definitions offered by the researchers presented in previous sections. Thus, the term correlates to its many manifestations within the European territory, although we should remind the reader of the controversies manifested in what concerns the differences between CLIL and immersion or bilingual education in general. In short, Coyle et al. (2010) make a compilation of four proactive driving forces that assist the expansion of CLIL in Europe:

> Families wanting their children to have some competence in at least one foreign language, governments wanting to improve languages education for socio-economic advantage, at the supranational level, the European Commission wanting to lay the foundation for greater inclusion and economic strength; and finally, at the educational level, language experts seeing the potential of further integrating languages education with that of other subjects. (2010: 9)

The final line of this excerpt is also of relevance, as long as it specifies the need to

transform education and highlights the significance of teacher coordination and collaboration to achieve this far-reaching goal, an aspect that will be treated separately later on. Likewise, Pladevall-Ballester and Vallbona (2016: 37) insist that "the implementation of CLIL programmes has become commonplace in most European educational systems". Yet again, Coyle (2007) lists 216 different types of CLIL programmes and Lasagabaster and Doiz (2016) warn that the status of CLIL in one country cannot be extrapolated to another country – according to the past 2015 European Commission report, only Denmark, Greece, Iceland, and Turkey do not apply any form of CLIL[2].

The most common way of applying CLIL is by a combination of foreign languages with regional and/or minority languages (Piquer Vives & Lorenzo Galés, 2015; Durán-Martínez & Beltrán-Llavador, 2016; Pérez-Cañado, 2016); English is the predominant language taught, together with German and French, and trilingual CLIL is offered in Spain, Latvia, Estonia, the Netherlands, Austria, and Sweden, for example (Pérez Cañado, 2011, 2014, 2016). As far as the subjects taught through CLIL is concerned, the scope is decreasing; these depend for the most part on teacher qualifications and "focus on History, Geography, Science and Social Sciences, particularly in Secondary Education" (Pérez-Cañado, 2011: 320). But she complains that "the evaluation of CLIL application (…) is practically non-existent" (Pérez-Cañado, 2016: 15).

2.4.1 The European Framework of CLIL Teacher Education

In relation to CLIL implementation in Europe, and, by extension, Spain, *The European Framework for CLIL Teacher Education*, devised by Marsh, Mehisto, Wolff and Frigols-Martín in 2010 represents a turning point in the history of CLIL, as it specifically deals with the professional development of CLIL teachers in Europe, presenting a number of general guidelines[3]. Their conviction is that "every teacher should be educated (…) as a CLIL teacher" (Wolff, 2012: 107), a belief which I could not agree more with. When presenting their aim, they state that:

> The European Framawork for CLIL Teacher Education aims to provide a set of principles and ideas for designing CLIL professional development curricula. Additionally, the Framework seeks to serve as a tool for reflection. It is proposed as a conceptual lens and model, not as a prescriptive template.

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[2] See Fortanet-Gómez and Ruiz-Garrido 2009 for a thorough description of CLIL provision in Europe
[3] Another major publication is *Profiling European CLIL Classrooms: Languages Open Doors*, by Marsh, Maljers and Hartiala (2001), which will be dealt with in a separate section when dealing with the rationale, characteristics and dimensions of the CLIL approach itself

(Marsh et al., 2010: 3)

Interestingly, they continue by addressing the motivation behind the framework, which are in line with the controversies in CLIL implementation:

> As CLIL programmes in the Council of Europe Member States differ from country to country, in their organisation, content, intensity and choice of languages, this European Framework for CLIL Teacher Education focuses on macro-level universal competences of CLIL educators. These have been identified through an examination of teacher education learning and curricular needs in CLIL contexts, and through a pan-European process of consultation. (Marsh et al., 2010: 3)

It must be mentioned that this framework should be taking into consideration in the following sections for my analysis to be consistent; it is included here as it is a European guideline. For the sake of space, a brief reference will be made to its overall structure and components, synthesised by Wolff (2012) in his subsequent review of the project. I will make reference to what I think are the most relevant excerpts to the purpose of this study.

The first component is the target professional competences that teachers are supposed to have. These categories are: *personal reflection* (e.g., "to explore and to articulate their understanding of, and attitudes towards content and language learning, as well as learning skills development in CLIL", 2010: 17), *CLIL fundamentals* (e.g., "to contextualise CLIL with respect to the school, regional and/or national curriculum", 2010: 18), *content and language awareness* (e.g., "to deploy strategies to support language learning in content classes", "to promote learner awareness of language and the language learning process", "to scaffold language learning during content classes", or "to draw on knowledge and theories from language learning fields such as SLA to propose instructional and learning strategies", 2010: 19), *methodology and assessment* (e.g., "to cooperate with colleagues so as to reflect on and improve learning" or to "support continuous language growth through a repertoire of didactic strategies (…) Zone of Proximal Development, error awareness and correction, first language transfer and interference, translanguaging" and "to identify what learners already know", 2010: 21-23), *research and evaluation* (e.g., "to use self, peer and student evaluation to improve their own practice and student learning", 2010: 24), *learning resources and environments* (e.g., "to maintain a triple focus on content, language and learning skills" or "to design and use cognitively and linguistically appropriate learning materials", 2010: 25), *classroom management* (e.g., "to use diverse classroom set-ups to promote student communication, cooperative learning and leadership", 2010: 26), and *CLIL management* (e.g., "to work within change models" or "to work with internal and external stakeholders", 2010: 27).

Lastly, the second component described is the professional development modules,

which are three: *approaching CLIL* (situating CLIL, adopting action research, examining good pedagogy and CLIL, and focusing on CLIL in the school context), *implementing CLIL* (designing CLIL classroom curricula, anchoring CLIL in the classroom, interweaving psychological and pedagogical aspects in the CLIL classroom, assessing and adapting CLIL learning resources and environments, and becoming an evidence-based practitioner), and *consolidating CLIL* (assessing for learning, networking locally, nationally and internationally, and practicing CLIL).

2.4.2 The situation in Spain

Moving back home, the nearly last two decades have witnessed an *explosion* of CLIL programmes all over the Spanish map (Lázaro Ibarrola, 2012; Ruiz de Zarobe, 2013; Durán-Martínez & Beltrán-Llavador, 2016; Merino & Lasagabaster, 2015; Lasagabaster & Doiz, 2016; Madrid & Barrios, 2018). It is not a coincidence that these programmes are a contemporary of the implementation by the Spanish Ministry of Education of a Master's degree to train future language teachers; but curiously, CLIL is not included in its official directions. At any rate, following the directions from Europe, Spain introduced a number of reforms related to the teaching of foreign languages.

In our country, Spanish, Catalan, Galician and Basque are the official state languages, and English is introduced to our children as one of 'two additional languages' in primary school, as an obligatory subject. Catalonia, Galicia or the Basque Country, bilingual regions in Spain, have a history of bilingual programmes in their co-official languages (Ruiz de Zarobe, 2013; Martin del Pozo, 2015; Pérez-Cañadas, 2016). By doing so, Spain is one of the countries in Europe in which English is presented earliest in formal education, taking into account the European policies mentioned which are aimed at fostering bilingualism and multilingualism, being well aware of the necessity to learn foreign languages, so much so that some experts in the field (i.e., Coyle, 2010, 2013) regard Spain as taking a lead role in the development of CLIL. Nonetheless, the procedures and practices are difficult to portray in a simple way, given the decentralised status of today's educational system in Spain, since the competences regarding education are transferred to each individual Autonomous Region; therefore, regional authorities are responsible for the management and administration of CLIL programmes.

The agreement between the British Council and the Spanish Ministry of Education (*MEC*), dating back to 1996, is seen as the forerunner of bilingual programmes in Spain. It was stipulated that the Spanish and the English national curricula would be combined to

form an integrated curriculum, materialising the discontent and dissatisfaction of the vast majority of foreign language teachers and parents concerning the poor outcomes of the existing model. The main purposes were to raise awareness of cultural diversity and to encourage foreign language learning and acquisition, mainly English. Madrid and Barrios (2018) remind us that this initial project ought to engage the whole school community, it should be done with authentic materials and focus on natural language. This agreement was also signed with the French Government, although it is not the case under examination.

3   THE CLIL APPROACH

In order to delimit the role played by grammar and argue in favour of a focus on form in CLIL contexts, a number of issues have to be taken into account, namely: the characteristics or possible delimitations and key dimensions of the approach, its theoretical background, the language/content dichotomy, some insights from previous research, how to implement CLIL successfully, and the need for teacher collaboration.

3.1   Characteristics, delimitations, actors and key dimensions

So far, it is clear that to offer a clear-cut definition of CLIL that suits everyone is a sensitive issue – "'*Is what I'm doing CLIL?'* is a recurring question" (Costa & D'Angelo, 2011: 1-2). As a matter of fact, up to the present section, it has been tried to bring forward the idea that CLIL is interpreted in different terms by both researchers and practitioners:

> [The] scope of the term CLIL both internally (…) and externally (…) indicate that the core characteristics of CLIL are understood in different ways with respect to: the balance between content and language instruction, the nature of the target languages involved, instructional goals, defining characteristics of student participants, and pedagogical approaches to integrating content and language instruction. (Cenoz et al., 2014: 243).

From this claim, the main characteristics of CLIL can be outlined in terms of its goals, the students' profiles, the target language used, the balance between language and content (which deserves special attention), and other issues regarding its pedagogical implementation, to name but a few. Research in immersion and bilingual education is interesting to consider to understand where we come from (Tarnopolsky, 2013; Dalton-Puffer et al., 2014; Madrid & Barrios, 2018) and to uncover some assumptions made.

Firstly, one cannot conclude that the goals of the CLIL approach are very different from the ones in an immersion programme with regard to students' motivations (Gruber, 2017; Awan & Sipra, 2018) – "the claim that students in CLIL versus immersion programs

have distinct patterns of motivation is (…) difficult to substantiate owing to a lack of empirical evidence and (…) a lack of prime face validity for this argument" (Cenoz et al., 2014: 248). Secondly, it would seem that CLIL may be elitist and not open to everyone for some, but again, this assertion has no solid foundations (Paran, 2013; Lasagabaster, Doiz & Sierra, 2014). Then, other researchers argue that CLIL is distinctive insofar as the 'additional language' that is used is a foreign language, mainly English, yet "it is difficult to argue that CLIL can be distinguished with reference to the nature" (Cenoz et al., 2014: 251) of the language employed (also, Merino & Lasagabaster, 2015; Bruton, 2015; Piquer Vives & Lorenzo Galés, 2015).

Next, whether CLIL is, above all, language-driven or content-driven is also a hot-button topic. On the one hand, Marsh (2008: 235) for example insists that "forms of CLIL focused more on the content, rather than on the language"; but on the other hand, "evidence that there is a more balanced pedagogic integration of content and language in CLIL is scant", as declared by Cenoz et al. (2014: 252) and supported by Hüttner and Smit (2014) or Martín del Pozo (2015). Further, experts suggest that CLIL teachers design their own materials and arrange their instructional techniques accordingly, placing a high emphasis on language (Ball & Lindsay, 2010; Banegas, 2012, 2014; Hallbach, 2014; Piesche et al., 2016); to this one must add the vast heterogeneity by which this is put forward (Cenoz et al., 2014; Cenoz 2015; Bruton, 2015). Finally, focusing on the starting age of students enrolled in CLIL programmes, it appears that CLIL is normally introduced after learners have acquired enough literacy skills in their mother tongue, although this varies within countries (Ruiz de Zarobe, 2013; Dallinger, Johnkmann, Hollm & Fiege, 2016; Awan & Sipra, 2018). Either way, my own view of this is that it seems logical that the better command of the first language, the better the learning and consolidation of a foreign language, especially if students are to based the new contents on their previous knowledge.

A very clear delimitation of what CLIL is, or should be, and the fundamental choices that need to be made for an educational approach to be qualified as such, is described by Costa & D'Angelo (2011), whose inquiries into the matter have been extremely valuable; the seminal list below summarizes what they regard is characteristic of proper teaching in CLIL (Costa & D'Angelo, 2011: 10) – I have taken the liberty of highlighting some parts in bold, as I believe them to be of special relevance to my study[4]:

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[4] The authors also offer a synoptic table of what CLIL is not, or what 'bad CLIL' is on the same criteria

- The teacher's linguistic competence allows for satisfactory interaction with the students.

- At least **75%** of course taught in the additional language

- The teacher of the discipline leading the L2 lesson

- Subject/content

- Minimum exposition of no fewer than 20 hours

- **Explicit guide** to understanding and use of **linguistic aspects** of the content

- Linguistic progression not planned. The **linguistic structures** are dealt with as they **naturally arise** as a by-product of the content-related language

- Content presented at **levels similar** to those that would occur in the **L1**

- **Lesson introduced in the native language** and then carried out in the additional language

- Interdisciplinarity is not mandatory but can be successfully used in a CLIL project

- Co-presence [of the mother-tongue conversation tutor/teacher] not mandatory

- **Assessments that combine language and content**, at least at times

- Acceptance of certain national traits in teaching style

- When there is the awareness that the use of a different language implies the awareness as well of its culturally-diverse content

- Where extra-curricular hours are not necessarily required

- TIC are not mandatory but can be successfully coupled with CLIL

- A program open to all students (**not only those good in the L2** or in the discipline)

With these characteristics in mind and in connection with them, we now turn to present the actors involved in the CLIL process. Without a doubt, the teachers of the non-linguistic disciplines (*disciplinas no lingüísticas* in Spanish, for example, Science, Mathematics or Physical Education, depending on the country and the region) and their students are the backbone, as in any other educational approach; the NLD teacher's

linguistic competence, advocates coincide, should not fall below a B2 level in the CEFR (Pavón, Ávila, Gallego & Espejo, 2014; Kelly, 2014; Lasagabaster &Doiz, 2016)[5], given that "a level of competence below B2 does not allow a true communicative interaction and an effective presentation of the content" (Costa & D'Angelo, 2011: 7); these authors add that "unfortunately, it is not rare (…) to encounter teachers who *perhaps* had an A2 level and yet taught a CLIL course" (Ibid.), a shared concern by others (i.e., Bovellán, 2014).

Together with the NLD teacher, the foreign language teacher does have an important role as far as teacher collaboration is concerned, either by a joint participation, or by explicitly teaching the language in a formal way. This cooperation is indeed, as it has been already mentioned, imperative in the CLIL approach. The foreign language teacher may assist the NLD teacher in the presentation of language structures and patterns, for example, but it is the job of the latter to manage the content side.

Additionally to the NLD and the language teachers, the contribution of the L1 is paramount too so as to enhance and build up the student's cognitive processes and taking into account that *code-switching* is of utmost importance and has to be present to aid the learning process. On account of this, the input that students are provided with has to be suitable and correct, looking not only at content but also at the language; similarly, a *focus on form* is needed if this input is to be clear and precise (Lázaro Ibarrola, 2012; Pérez-Cañado & Lancaster, 2017), as "the language must be learned in its entirety and in all its richness" (Costa & D'Angelo, 2011: 8). This is the gist of the matter to me.

Apart from these postulations, experts widely agree that the main philosophy behind the birth of CLIL is that European approaches to bilingualism that were adopted from Canada or the USA, were failing to meet the needs of our educational panorama. Within this perspective, the contribution made by Marsh et al. (2001) is noteworthy and it has laid the foundation for much groundwork and current pedagogy in CLIL. This landmark publication:

> addresses educational decision-makers, administrators, teachers, and also the general public. The result is a description of the underlying and interwoven reasons and features present in the implementation of CLIL as it is found in individual and unique contexts across Europe (Marsh et al., 2001: 13)

The purpose was to identify the underlying foundations of this approach to education in Europe, and they forewarn that these features are not to be taken in isolation, but in an interrelated way in practice for CLIL to be successful in the classroom. Likewise, they say

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[5] In Spain, the certifications needed to be a NLD teacher vary from region to region. For instance, a B2 level is required in Andalucía, Murcia or Asturias; a C1 in Madrid; and a B2 or a C1 level in Castilla-La Mancha, depending on the linguistic programme one wishes to teach, 'initial' or 'excellence'

that some of them are more "transient" (Marsh et al., 2001: 17), for the mere fact that the justification for using CLIL may eventually differ. In this way, the "intervowen reasons" for doing CLIL (Ibid.), that is to say, the key dimensions of the approach dealt with are the following (Marsh et al., 2001: 16):

1. The **Culture** Dimension – CULTIX: build intercultural knowledge and understanding; develop intercultural communication skills; learn about speficic neighbouring countries/regions and/or minority groups; introduce the wider cultural context.

2. The **Environment** Dimension – ENTIX: prepare for internationalisation, specifically EU integration; access international certification; enhance school profile.

3. The **Language** Dimension – LANTIX: improve overall target language competence; develop oral communication skills; deepen awareness of both mother tongue and target language; develop plurilingual interests and attitudes; introduce a target language.

4. The **Content** Dimension – CONTIX: provide opportunities to study content through different perspectives; access subject-specific target language terminology; prepare for future studies and/or working life.

5. The **Learning** Dimension – LEARNTIX: complement individual learning strategies; diversify methods and forms of classroom practice; increase learner motivation.

Undoubtedly, the most relevant dimension for the purpose of this study is LANTIX, bearing in mind that they are all intervowen, though. Inside this dimension, the focus on 'deepening awareness of both mother tongue and target language' has to be stressed. The authors remind that to determine the optimal circumstances in which additional languages are acquired has been troublesome, adding that "there is some dispute over the development of the first language in certain types of high exposure CLIL situations" (Marsh et al., 2001: 37). An interesting key CLIL feature of this *sub-dimension* for this review is "showing [the] inter-relationships which exist between the first and additional language" (Ibid.).

3.2   Conceptual groundwork: Coyle's *4Cs Framework*, the *Language Triptych* and Cummins' *BICS* and *CALP*

It is acknowledged that there is a distinct lack of theoretical conceptual groundwork for CLIL (Cenoz, 2015; Martín del Pozo, 2015); despite this fact, the most widely-used, reviewed and taken up framework is Do Coyle's *4C's Framework*, also known as *The 4C's Model*, developed in 1999 and revisited several times since then (for example, in Deusen-Scholl & Hornberger, 2008: 97-111, in their *Encyclopaedia of Language and Education*). In an attempt to approach a cohesive conceptual tool to work with, this framework unifies language learning theories and interculturality; it holds that effective CLIL takes place

through interaction in a communicative context, progression in knowledge and comprehension of the subject-matter, being involved in cognitive processing, developing suitable language skills and knowledge, and raising intercultural awareness. Accordingly, it is planned as a resourceful tool to maximise the true potential in any model, regardless of the age of the students or their level (Piesche et al., 2016). Therefore, it is highly advisable that teachers use this tool to develop quality materials for their classrooms.

Following Coyle (2008, 2009, 2010, 2013), the interdependent postulates that give rise to CLIL are the following: *Content*, that is, the subject-matter; *Communication*, namely, the language 'of, for and through' learning (this refers to the *Language Triptych* below)[6]; *Cognition*, the thinking skills; and *Culture*, related to global citizenship – to this dissension, Content and Communication are essential. Hence, the fundamental CLIL principles that are worth mentioning are these; the first and the second ones are of special relevance to us (Amado-Valdivia, 2012: 23):

- Content needs to be analysed in order to identify its linguistic demands and reconstructed so that it permits the development of language.

- Communication is about identifying the language needs for the specific learning context so that it can be possible to learn through the use of that language. This language needs to be transparent and accessible. Interaction in the learning context is fundamental to learning.

- Cognition is about students developing skills to think, analyse and create their own interpretation of knowledge and understanding.

- Culture in its complex relationship with language needs to be understood. Intercultural awareness is fundamental to CLIL.
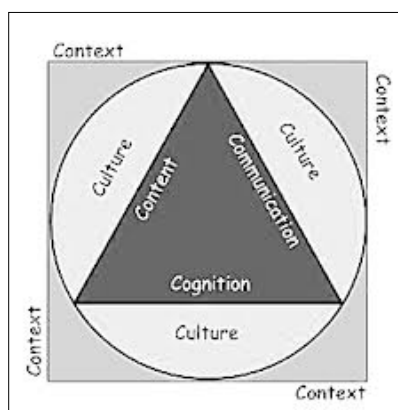

Figure 1. The 4Cs Framework (Coyle et al., 2010, p. 42)

For the sake of space and conciseness, only the aspects of Content and Communication will be further examined. First of all, *Content* is defined by Coyle et al. (2010: 53) as "the subject or the CLIL theme, which can be drawn from alternative approaches to a

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[6] The authors clarify that "in the 4Cs Framework, the terms 'language' and 'communication' are used interchangeably" and justify it by saying that it is "a strategy for promoting genuine communication in the vehicular language if learning is to take place" (Coyle et al., 2010: 43)

curriculum, involving cross curricular and integrated studies (…) in terms of a progression in new knowledge (…) rather than simply knowledge acquisition". Essentially, the practical application one assumes from this is that content must be meaningfully contextualised, not only for language learning, but also for language use. Second of all, as illustrated in the framework, the language needed is determined by the content in question; thus, language is regarded as the channel through which communication and learning take place – 'learning to use the language and using the language to learn', they explain. To put it simply, equal attention is given to language use and language form; and what is more important, *Communication*, or language, transcends the grammatical system, but it does not forego its primary role in language learning (Coyle et al., 2010; Coonan, 2011; Gruber, 2017). The *Communication* aspect in the *4C's Framework* is inevitably linked to two other accepted theoretical cornerstones in CLIL, the so-called *Language Triptych* and the *BICS/CALP* distinction. Both are tools to observe language awareness; the former was laid out by Coyle et al. in 2010 and the latter by Cummins back in 1984.
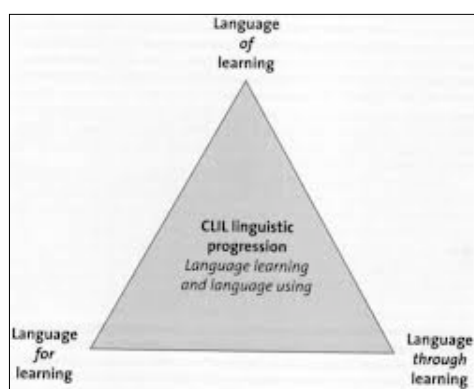

Figure 2. The Language Triptych (Coyle et al., 2010, p. 36)

The *Language Triptych* is a conceptual description that serves to connect both content and language objectives. Martín del Pozo (2016: 154) affirms that it "has proven to be a tool that fulfils the purpose of assisting in language awareness raising by the identification of the different types of language involved". Also, this representation offers a scheme for the to analyse the vehicular language employed in CLIL from three interconnected viewpoints, which are the constituent parts of the Triptych; these perspectives are:

  a) Language *of* learning: refers to the language needed to comprehend concepts and approach different skills in a field of knowledge; "for the language teacher this means shifting linguistic progression from a dependency on grammatical levels of difficulty towards functional and notional levels of difficulty demanded by the content" (Coyle et al., 2010: 37); as for the role of the NLD

teacher, "it requires greater explicit awareness of the linguistic demands of the subject or content to take account of literacy and oracy in the vehicular language" (Ibid.).

b)   Language *for* learning: refers to the language that provides the learner with the necessary resources to be functional in a foreign language learning environment, including both the language typical of the classroom and that for academic purposes – here is the link to the BICS/CALP distinction. In addition, the authors add that "unless learners are able to understand and use language which enables them to learn, to support each other and to be supported, quality learning will not take place" (Coyle et al., 2010: 37).

c)   Language *through* learning: refers to the language as arises during learning itself; when new meanings are learned, new language is demanded. Coyle et al. (2010: 37-38) explain this third perspective as follows:

> [It] is based on the principle that effective learning cannot take place without active involvement of language and thinking (…) Learners need language to support and advance their thinking processes whilst acquiring new knowledge, as well as to progress their language learning (…) In more practical terms, [it] is to do with capturing language as it is needed by individual learners during the learning process [and] it encourages the teacher to find ways of grasping emerging language in situ.

But what is most interesting to our study is that this third standpoint of language points at the urge to define how language learning, or students' linguistic development, is accomplished by means of reusing additional or future language development (Llinares, Morton & Whittaker, 2012; Coyle, 2013). In other words, a relevant and original feature of the Triptych is that it "does not replace grammar progress but enhances it" (Martín del Pozo, 2016: 145). This language progression is represented as follows:
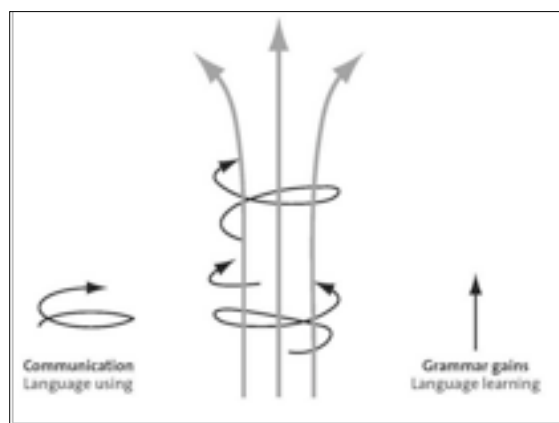

Figure 3. The spiral of language progression (Coyle et al., 2010, p. 36)

The *Language Triptych* and the language or grammatical progression that is fostered by it is the justification for the need to NLD teachers and foreign language teachers to work cooperatively and collaboratively; in this way, language teachers can supplement and enrich content teachers' work by recognising the language *of/for/through* learning and offer the appropriate linguistic tools (Martín del Pozo, 2015, 2016; Gruber, 2017).

The third and final essential feature of the conceptual framework of CLIL analysed is the distinction made by Cummins (1984) between *BICS* (Basic Interpersonal and Communication Skills) and *CALP* (Cognitive Academic Language Proficiency). These two acronyms have been extensively discussed in the field (Costa & D'Angelo, 2011; Wolff, 2012; Martín del Pozo, 2015, 2016; Khatib & Taie, 2016). They refer to the linguistic competences that are needed in bilingual contexts for successful teaching and learning. *BICS* refers to "conversational fluency in a language" and *CALP* to "students' ability to understand and express (…) concepts and ideas that are relevant to success in school" (Cummins, 2013: 65). The second element in this dichotomy, *CALP*, is essential of we are to argue for the need to teach grammar in an explicit way in CLIL lessons, because it refers to the mastery of the register of formal language. On top of this, Martín del Pozo (2016: 146) notes quite properly:

> The pedagogical implications of differentiating between language use in academic context and language use in conversational contexts has shed light on what language competences should be targeted by language teaching. The main thoughts underlying this distinction are firstly that language is used differently in academic contexts than in everyday situations and secondly, academic competence is not acquired naturally.

Very briefly, we must comment that a related construct to the groundwork outlined so far is *scaffolding*, which is also connected to form-focused instruction, dealt with later on (Lyster, 2007; Gerakopoulou, 2016). Following Vygotsky (1978) and his notion of the *Zone of Proximal Development* (ZPD), this construct is linked to constructivist theories of language learning; the idea behind is of a learner being temporarily helped by a more capable person, the teacher in this case, in order to complete a task (Hermkes, Mach & Minnameier, 2018). Scaffolding concentrates in the construction of active knowledge, and for this to occur, the teacher has to "adopt the learners' perspectives, diagnose their current level of understanding and, if required, get involved in their cognitive processes and co-constructive activity" (Hermkes et al., 2017: 147). In order to assist content and language development, both NLD teachers and foreign language teachers have to provide the students with content- and language-specific scaffolding (Doiz, Lasagabaster & Sierra, 2013; Dimova, Hultgren & Jensen, 2015), in view of the fact that "language- [and content] supportive methodologies are a key feature of this educational approach" (Carloni, 2018:

484). To put it simply, teachers act as facilitators of learning in the sense that they supply students with scaffolding that is appropriate to enhance "subject-specific input processing, output production, negotiation of meaning, and dialogical interaction within students' ZPD" (Carloni, 2018: 486).

Moreover, as it has been mentioned several times, insofar as CLIL is a flexible approach, it is very likely that many types of scaffolding exist in the classroom –Carloni (2018: 487) conveniently adds that " a CLIL scaffolding system may encompass various practices and strategies aimed at fostering input comprehension (…) and language development, while also decreasing students' cognitive load [and] teacher talk can also serve as scaffolding". As Costa and D'Angelo once underlined: "only if challenged cognitively and equipped with language support and scaffolding will students learn" (2011: 3). Let us turn now to the extent to which there is harmony between language and content in the CLIL approach.

3.3   Language and content: well balanced?

This controversy is in on with other dichotomies in this study, such as the implicit/explicit debate, or the focus on form/meaning – I personally call for the necessity to focus on form explicitly in CLIL lessons, without foregoing content. First of all, emphasis must be laid on the fact that if "the CLIL acronym stands for Content and Language Integrated Learning, it would logically follow that (…) this learning should involve both aspects" (Costa & D'Angelo, 2011: 9). This means that the double focus of CLIL is asserted in its definition. Meyer, Coyle, Halbach, Schuck and Ting (2015: 41-42) point out that "unravelling the integrated approach and the inherent interrelationship of using language for progressing knowledge construction and meaning-making needs to be addressed, drawing together linguistic and pedagogic theoretical underpinnings". Nevertheless, this brings up to the question of whether the primary goal is language learning or content learning, but I maintain that in terms of educational objectives, teaching content through an 'additional language' would be derisory if language were not an overriding goal, as foreign language competence and proficiency may be seriously at risk – Coyle et al. (2010: 44, as cited in Martín del Pozo, 2016: 143) bluntly state that "when CLIL is led by content teachers, linguistic demands may be under threat".

CLIL advocates clarify that it is 'content-driven'. One of the most straightforward claims is made by Coyle et al. (2010: 1): "CLIL is content-driven, and this is where it both extends the experience of learning a language, and where it becomes different to existing

language teaching approaches". Similarly, Marsh (2002: 72, as cited in Cenoz et al., 2014: 251) highlights that "the non-language content is considerably more important than the language", but this is contested by others, replying that "CLIL is not a matter of learning first one of either content or language and only then the other, but of learning both content and language simultaneously" (Anderson et al., 2015: 137). At any rate, it is acknowledged that research on content in CLIL is very much in its infancy (Banegas, 2013; Hallbach, 2014; Cenoz, 2015) and "CLIL research mainly focuses on the second language development of the students" (Oattes, Oostdam, de Graaff & Wilschut (2018: 166). To create further uncertainties, Dallinger et al. (2016: 25) claim that "the effects of CLIL on content learning remain and open question". Disputes are served[7].

Besides, the debate around the balance in content and language has chiefly focused on the distinguishing parameters between CLIL and immersion, and the conclusion drawn – if such a thing is possible – is that "evidence that there is a more balanced pedagogic integration of content and language in CLIL is scant" (Cenoz et al., 2014: 252; Gruber, 2017; Madrid & Barrios, 2018). All in all, it is the subject/content teachers' task to "carefully plan, prepare and execute lessons in order to simultaneously develop students' subject content knowledge and language skills" (Oattes et al., 2018: 166). In other words, this dual focus of CLIL goes hand in hand with focusing on both the subject content and the linguistic skills; and this is precisely what differentiates it from general foreign language teaching, which concentrates on grammar and vocabulary as integrated in the four major skills[8]- "one of the rationales for CLIL is precisely its alleged ability to avoid the plateau effect of traditional foreign language teaching", Harrop (2012: 59) concludes.

Now that CLIL programmes are expanding world-wide, there is a recurrent concern as far as students' – and teachers' – ability to deal with the knowledge of content in the L2, "which need[s] to be studied, clarified, and addressed" (Martyn, 2018: 89); in fact, the author complaints, just like other experts, that "CLIL teachers' lack of competence to teach effectively in their second language (…) has been identified as a constraint in several studies, especially [when] teachers and students often share the same L1" (Ibid.), as is the case in Spain. A similar anxiety would involve the scope of students' narrow proficiency in the foreign language in CLIL contexts, that is, whether this "will impair their understanding of content in a CLIL context" (Jensen & Thøgersen, 2011: 21).

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[7] See Pérez-Cañado (2018) for a review of research focusing on the impact of CLIL on subject-matter teaching, which she concludes to be negative
[8] See Graham, Choi, Davoodi, Razmeh & Dixon (2018) for an examination on how CBI teaching practices can be compared with traditional language teaching

Clearly, from the literature reviewed, the *hostilities* between language and content still abound. In this arena, and related to teacher collaboration in CLIL contexts, Greere and Räsänen (2008) categorise CLIL approaches, which vary from the absence of integration of language and content ("the non-integration or non-CLIL", Greere & Räsänen, 2008, as cited in Arnó-Macià & Mancho-Barés, 2014: 64) to a full combination of them ("which involves the team-teaching of dual programs catering for language and content", Ibid.)[9]. For the benefit of blending the language and content extremes, the example of Lyster's (2007) *counterbalanced instruction* deserves its merit. It originally developed in immersion programmes addressed to young learners and it integrates content and form-focused instruction (Arnó-Macià & Mancho-Barés, 2014; Jaén Campos, 2016). This type of instruction is a good solution, as it recommends attention to both form and content in a systematic way. Added to this, and to sum up, it should be reminded that "CLIL is the shared construction of knowledge (both of content and language)" (Costa & D'Angelo, 2011: 9); however, CLIL research is not without its controversies (Lyster & Ballinger, 2011; Pérez-Cañado, 2016; Pérez-Cañado & Lancaster, 2017). It is to this matter that we now turn. The integration of content and language will also be dealt with in the sections dealing with successful CLIL and teacher collaboration, but we can put forward that "if the students do not get the opportunity to engage with the new content in the L2, there is limited language development and conceptualization of the new factual content; (…) language and content, simply run parallel" (Reitbauer, Fürstenberg, Kletzenbauer & Marko, 2018: 98).

3.4 A final note: the need for CLIL in education

Coming from communicative methodologies (Graddol, 2006; Tarnopolsky, 2013; Ravelo, 2014; Merino & Lasagabaster, 2015; Bruton, 2015; Madrid & Barrios, 2018), CLIL has originated as a result of various driving forces – this idea was already stated in a previous section – (Coyle et al., 2010), including *reactive reasons* (to strengthen a weak foreign language competence) and *proactive responses* (scenarios to bolster Europe's urge to pursue multilingualism, considering *The White Paper on Education and Training*, for example). Progress and research made in the fields of second language acquisition and language teaching have also substantially aided the growing interest in CLIL (Paran, 2013; Hüttner & Smit, 2014). On top of that, it has "embedded itself in mainstream education"

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[9] See Arnó-Macià & Mancho-Barés (2014: 64-65) for a detailed account

(Pérez-Cañado, 2011: 316) in an unprecedented manner.

Anderson, McDougald and Cuesta Medina (2015: 137) assert that this approach "may offer grater and more flexible opportunities to improve language learning" to young learners and underline the role played by language as "a key ingredient to success" (Ibid.). Besides, Cenoz et al. (2014: 256) strongly believe that:

> [CLIL] has served to increase the prominence of L2/foreign languages in school curricula [providing] more hours of contact with the L2/foreign language, and CLIL has made learning an L2/foreign language in school more important throughout Europe and beyond.

Added to this, they ascertain that it "has the potential to better integrate foreign language/L2 instruction and the teachers responsible for that instruction with mainstream curriculum teachers" (Cenoz et al., 2014: 256). In my view, this is the real potential for growth in language education: it provides us with the opportunity to work and learn from others. Moreover, although there is a separate section for field research later, it is convenient to list some of the benefits shown to exist in learning and teaching in the eyes of experts. Needless to say, the most obvious contribution concerns the students' outcomes in the foreign language; it stimulates motivation and cognitive development; it supports cultural and linguistic diversity; students' academic achievement is not hampered or obstructed, and their mother tongue's development is not restrained (Pinner, 2013; Ruiz de Zarobe, 2013; Bruton, 2015; Piquer Vives & Lorenzo Galés, 2015; Lasagabaster & Doiz, 2016; Piesche, Jonkmann, Fiege & Kebler, 2016). However, a word of caution is advanced by Cenoz et al. (2014: 256) because "there are some weaknesses in CLIL that warrant greater attention"; of relevance here is the 'bandwagon effect', since there is a tendency to overlook its potential drawbacks – "there is a need for more balanced reflection on both the strengths and shortcomings or gaps in our understanding of CLIL and its effectiveness in diverse contexts" (Ibid.). Further, and unfortunately, "fundamental issues about the effectiveness of CLIL remain unexamined" (Cenoz et al., 2014: 257).

In terms of the implementation of CLIL, there are all sorts of different opinions, but all of them have to be considered for a coherent analysis. On the one hand, the variety of programmes included under CLIL is perceived as "detrimental (…) for the pedagogically coherent evolution of CLIL" (Pérez-Cañado, 2016: 15); but on the other hand, another notable group of authors respond to this by arguing that it has helped "to accommodate the linguistic diversity of the European landscape" (Ibid.) – Hüttner and Smit refer to this as the "context-sensitive stance on CLIL" (2014: 164). This, in turn, is consistent with the assertion made by Durán-Martínez and Beltrán-Llavador (2016: 8), which I personally endorse:

[It] is stretching some commonly assumed practices and theories of teaching and of second language acquisition beyond their boundaries to the extent that the concept of method itself is being challenged and suggestions have been made to replace it with the pedagogic parameters of particularity, practicality and possibility as organizing principles for L2 teaching and teacher education.

Last but by no means least, Coyle et al. (2010: 2, as cited in Pérez-Cañado, 2016: 16) underscore that CLIL is suitable "for a broad range of learners, nor only those from privileged or otherwise elite backgrounds". Nevertheless, this equality is also brought into question. Bruton (2013: 593-595, as cited in Pérez-Cañado, 2016: 16) maintains that "implicitly, CLIL is likely to be elitist and cream off certain students [and] rather than increasing the equality of opportunity, CLIL in certain contexts is subtly selecting students out". Regardless of the many advantages it offers, especially regarding teacher collaboration, classroom dynamics and learner outcomes, I feel strongly that, more often than not, *thanks to* CLIL, classes are divided into 'good' and 'bad' students. To sum up, as illustrated by Coyle et al., (2010: 9) when they wonder why CLIL is relevant to contemporary education:

Educational practice always needs to adapt to the cultural demands of those involved – learners, teachers and communities. Integration has become a key concept in the modern age, alongside immediacy of purpose. Both of these reflect the experience of increasing numbers of young people, and are accommodated within the CLIL educational approach.

4   WHAT RESEARCH TELLS US: EFFECTS OF CLIL PROGRAMMES AND LANGUAGE AWARENESS IN CLIL SETTINGS

Following Pérez-Cañado (2016), two main phases can be recognised when looking into the research that has been carried out into the effects of CLIL programmes. In the beginning, "advocates vastly outnumber[ed] its detractors or skeptics (…) almost exclusively singing the praises" of it (Pérez-Cañado, 2016: 17); but in the past few years, the tables have turned and there is "a pessimistic outlook on its effects and feasibility (…) and warns against the wholesale adoption of CLIL and the dangers inherent in the rush to embrace it" (Ibid.). The *red flags* she identifies as flaws relate to the variables, the research design, and the statistical methodology employed.

Researchers are consistent with the claim that more longitudinal studies are needed so as to assess the success of bilingual programmes and, by extension, CLIL (Costa & D'Angelo, 2011; Banegas, 2012, 2017; Pérez-Cañado, 2016, 2018; Pérez-Cañado & Lancaster, 2017). As Merino and Lasagabaster put it, "the time factor may be a crucial aspect that had not always be borne in mind before when measuring the CLIL effect (…) because the amount of exposure seems to be a key variable" (2015: 10). As reviewed,

research shows that CLIL instruction has obvious advantages in terms of students' general command and proficiency in the language (Martínez-Adrián & Gutiérrez-Mangado, 2015; Gerakopoulou, 2016; Graham et al., 2018); nevertheless, late research has also revealed that "not all language areas are favourably affected by CLIL" (Martínez-Adrián & Gutiérrez-Mangado, 2015: 54) and more studies are needed in an effort to "overcome the main lacunae presented by prior investigations (…) in terms of sample size, homogeneity, variables, or statistical analysis" (Pérez-Cañado, 2018: 67). We now direct our attention to relevant research in Europe and Spain with regard to the present analysis.

In Northern Europe, as reported by Pérez-Cañado (2011, 2018), research has focused on the effects of CLIL on students' competence in both the foreign language and their mother tongue, together with subject-matter learning. In Sweden for example, Bergroth (2006, as reviewed in Pérez-Cañado, 2011 and Nieto Moreno de Diezmas, 2016) carried out a quantitative study and the outcomes revealed that neither the mother tongue nor content knowledge were hampered by the dual-focus approach. In like manner, several studies have given account of CLIL strands outperforming non-CLIL strands in terms of literacy skills – Pérez-Cañado (2011, 2016) refers to Järvinen (2005), Merisuo-Storm (2006, 2007), or Jäppinen (2006), for example. More recently, we should allude to Gruber (2017), Vilkacienè and Rozgiené (2017), or Awan and Sipra (2018). But staying in Sweden, Airey (2004, as examined in Pérez-Cañado, 2011: 321) found "a lack of significant differences between monolingual classes and CLIL branches with regard to general FL competence".

In the United Kingdom, the work of Do Coyle deserves separate attention, although she complaints that the field of language learning in her country is "in crisis" (Coyle, 2009: 173). She affirms that CLIL is highly beneficial for the language teaching profession, it does not affect subject learning in a negative way, and that it raises students' awareness on cognitive thinking (Coyle, 2009, 2010, 2013); despite these strong claims, which have stimulated further research throughout Europe, her findings "are not substantiated by the research methodology employed" (Pérez-Cañado, 2011: 323).

In The Netherlands, the study carried out by De Graaff, Koopman and Westhoff (2007) and De Graaff, Koopman, Anikina and Westhoff (2007) is noteworthy to our research; to be more specific, the assumptions they made connected to effective L2 pedagogy in CLIL environments. Pérez-Cañado (2011: 324) gives the main points as follows:

> Effective L2 pedagogy in CLIL settings (…) comprises five basic assumptions (…) and gives rise to what these scholars term the 'SLA penta-pie': the teacher facilitates exposure to input at a challenging level, both meaning-focused and form-focused processing, opportunities for output production, and strategy use.

Hence, the demand for form-focused instruction in CLIL is made clear. Continuing with Central Europe, in Germany we find one of the most robust investigations on the subject of grammar in CLIL, conducted by Zydatiß (2007, as reviewed in Pérez-Cañado, 2011; later in Meyer, 2103 and Otwinowska-Kasztelanic & Foryś-Nogala, 2015, among others). The author tested grammatical competence, among other targets, and the results obtained corroborate that CLIL students perform significantly better than non-CLIL students; their results tally with similar research by Bulon, Hendrikx, Meunier and Van Goethen (2017) with CLIL learners of English and Dutch and with Juan-Garau, Prieto-Arranz and Salazar-Noguera (2015) here in Spain with Catalan-Spanish bilinguals, explicitly call for the urge to focus on form in CLIL. Yet, the latter account for a shortage of research on the development of lexico-grammatical competence in CLIL contexts; the insufficient attention to form in CLIL classrooms is also a preoccupation (Khatib & Taie, 2016; Dallinger et al., 2016; Pérez-Cañado, 2016, 2018; Oattes et al., 2018).

As for the situation in Spain, our country "particularly stands out within the European landscape" (Pérez-Cañado, 2011: 326-327). Specialists in the topic point that, on the one hand, CLIL in Spain is as heterogenous as the number of regions, perhaps because they have complete authority on educational issues; therefore, in the Spanish territory, regional educational initiatives account for European policies and there is not a sole model (Martínez-Adrián & Gutiérrez-Mangado, 2015; Pérez-Cañado, 2016, 2018). And on the other hand, a fact that enriches CLIL in Spain is that the dual-focused nature of the approach is carried out by enhancing not only foreign (European) languages but also second or co-official languages, as is the case in the autonomous communities of The Basque Country, Galicia, Catalonia, Valencia and the Balearic Islands, where Basque, Galician, and Catalan are developed repectively – in these regions, English is treated as a third language that is learned and taught through CLIL.

What is common to the CLIL spectrum in Spain is that English is the dominant vehicular language and that it is not perceived as an approach directed at the elite of society any more (Nieto Moreno de Diezmas, 2016; Martín del Pozo, 2016; Pérez-Cañado, 2018). Nevertheless, researchers are cautious:

> Discrepancies abound and vast outnumber possible similarities. Differences can be discerned in the minimum and maximum of FL content teaching established in each community, in terms of the number of subjects taught through CLIL, in the language level established for teachers and/or

students to partake in a bilingual stream, or regarding the amount of CLIL experience, as bilingual communities have been working with it for more than 25 years (Pérez-Cañado, 2011: 327).

In 2016 she reinforces the shortcomings of research that are derived from these discrepancies in CLIL implementation in the different autonomous communities, offering concrete examples on how to face the challenges[10]. In short, the weaknesses identified relate to the terminological and pedagogical vagueness of the term, the equity dilemma, the intervening variables in the studies, the research designs employed, and the statistical methodology. Of interest to our study is the fact that she empahasises the need to probe the impact of CLIL programs on both English/L2 competence and Spanish/L1 competence – in other words, if there is a requirement that both the L2 and the L1 are analysed as dependent variables, this entails that explicit attention to form is necessary in CLIL lessons in order to better understand the connections between the two.

In connection to this, and regarding the extent to which CLIL is beneficial to the acquisition of language-specific features, a conclusion drawn is that English verbal morphology is particularly difficult for students. In a study conducted in a Basque-English CLIL situation, Villarreal-Olaizola (2011, as reviewed in Martínez-Adrián & Gutiérrez-Mangado, 2015: 54) reports a "high omission rate of inflectional morphology [3rd singular –s, past tense –ed and auxiliary and copula be]", for instance, coming to the conclusion that "although the advantages of CLIL seem to be clear with respect to general competence, they do not appear to extend to language specific areas such as morphosyntax" (Ibid.). On the production of obligatory subjects and objects in CLIL and non-CLIL groups, the authors found that, under qualitative inspection, "the production of null objects was lower than the production of null subjects" (Martínez-Adrián & Gutiérrez-Mangado, 2015: 61). Regarding the production of the third person singular –s and the irregular past tense –ed, they drew two conclusions: firstly, that the "production of null inflected lexical verbs was quite high" (Martínez-Adrián & Gutiérrez-Mangado, 2015: 62) compared to the production of null subjects and objects and, secondly, that there were in fact "statistically significant differences [revealing] the superiority of the non-CLIL" strand (Ibid.). It is also interesting to note that more homogeneity was found in the CLIL group and that the non-CLIL group was less autonomous.

Another recent interesting longitudinal study on the effects of CLIL on grammatical achievement was made by Pérez-Cañado (2018). She ascertains that if there are any

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[10] See Pérez-Cañado (2016: 18-21) for a profound analysis concerning CLIL characterization, implementation and research

differences in grammatical achievement between the bilingual and non-bilingual groups, these are associated with the CLIL programme, which leads her to confirm that "CLIL programs have a more powerful effect on language attainment particularly in the long run" (Pérez-Cañado, 2018: 65) and points out that "at the end of CSE (…) verbal intelligence (…) also carr[ies] greater weight" (Ibid.). This, in turn, is in accordance with the call for more longitudinal studies, she notes:

> Time is needed for the full effect of CLIL to be felt on foreign language attainment (…). Further longitudinal investigations would also be desirable into the effects of CLIL on language competence [to] determine the exact amount of time required for a success-prone implementation of these types of programs (Pérez-Cañado, 2018: 68).

This assertion matches the wish for more focus on form in CLIL and on the implementation of tasks that raise awareness of form (Lyster, 2007; Basterrechea-Lozano & García-Mayo, 2013; Ruiz de Zarobe, 2013; Lasagabaster et al., 2014; Martínez-Adrián & Gutiérrez-Mangado, 2015). In fact, Martínez-Adrián and Gutiérrez-Mangado abruptly claim that "secondary CLIL classrooms in Spain reveal that focus-on-form input is non-existent" (2015: 68); they complain, following Lyster (2007) and Swain (1988) that CLIL, being primarily a meaning-oriented approach, does not guarantee the acquisition of "less salient but crucial morphosyntactic features" (Ibid.). CLIL subscribes to an incidental approach to language teaching, and linguistic elements are drawn attention to as they arise in content. Thus, I completely concur with their view, shared by many experts (Lyster, 2007; Larsen-Freeman, 2015), that "incidental attention to language during content instruction is insufficient [and that] more explicit instruction (…) is more effective than implicit treatments" (Martínez-Adrián & Gutiérrez-Mangado, 2015: 68-69). In this line, Karim and Rahman (2016: 260) come to the conclusion when exploring previous studies on the impact of CLIL in different contexts that "teachers emphasise fluency over accuracy [and] learners felt the need of learning grammar (…) but teachers failed to initiate changes"; similarly, Calfoglou (2017: 78) warns that "the predominance of content focus in CLIL programmes has usually meant putting language considerations aside, which may be a serious fallacy, in the sense that it undermines the integration idea". This is strengthened by Martín del Pozo's contention that "any training/education which pays attention to language awareness is a good investment" (2016: 154).

Besides, this lack of attention to form in CLIL lessons is not counterbalanced by the L2 lessons, because in the latter language forms are treated in isolation, following a progression in complexity and strictly conforming to the curriculum. In this way, students are exposed to language use in a meaningful context and to language instruction

separately; as a consequence, the explicit knowledge that learners have acquired in the foreign language lesson is not 'automatized' in the CLIL lesson. To put it another way, the linguistic features that students have learned in foreign language grammar lessons are not properly transferred to meaningful communicative interaction and contexts in content lessons. To sum up, following Lyster (2013), it is vital that the foreign language class and the CLIL class are connected, an urge reinforced by Martínez-Adrián and Gutiérrez-Mangado: "content-based and form-focused instructional options need to be counterbalanced [because] CLIL per se does not lead to better production of English" (2015: 69-70). Last but by no means least, it is agreed that for CLIL programmes to obtain positive outcomes, learning should be based on three key aspects: focus on *meaning*, focus on *form*, and focus on *forms*. These refer, separately, to tasks that are intrinsic to the content itself, to the formal linguistic features, and to more conventional linguistic practices (Costa & D'Angelo, 2011; Lyster, 2013; Dallinger et al, 2016). We will now outline the ingredients for CLIL to be effective.

4.1   Successful CLIL: the significance of teacher collaboration

It is a widespread belief that CLIL will make foreign language learning better and that it will stimulate multilingualism without it being prejudicial for content learning (Pérez-Vidal, 2013; Lasagabaster & Doiz, 2016), and it is further embraced as an approach that will transform monolingual environments into bilingual ones. This is "unmistakably proven by the ample support given to CLIL by European and national institutions" (Doiz & Lasagabaster, 2017: 93); however, authors suggest, its shortcomings have not been wholly addressed and "there are many unresolved issues in CLIL classrooms" (Meyer, 2010: 13), referring back to the 'bandwagon effect' in research. To this we must add that there is no single predetermined model and that programmes are exceptionally varied "not only from country to country, but also between schools in the same city or region". (Doiz & Lasagabaster, 2017: 94) and that "its success depends on a thorough analysis of context, an evaluation of needs, and the resources, human and material, which are available" (Pavón-Vázquez & Ellison: 2013: 70). Therefore, we can assume that "there is a need for more balanced reflection on both the strengths and the shortcomings or gaps in our understanding of CLIL and its effectiveness in diverse contexts" (Cenoz et al., 2014: 256) and that "the main needs and problems stakeholders face in their daily practice" (Pérez-Cañado, 2012: 330) have to be delved into – research has hitherto concentrated on learners' beliefs and points of view (chiefly Coyle's contributions), teachers' perspectives

and parents (Coonan, 2011; Hüttner & Smit, 2014; Pladevall-Ballester, 2015; Pladevall-Ballester & Vallbona, 2016; Gruber, 2017).

So far, we have made it clear that 'good' CLIL, which is progressively blooming "as part of a school strategy" (Roquet & Pérez-Vidal, 2015: 1), has a number of characteristics: it is context-embedded and driven, language outcomes are set for both content and language, linguistic scaffolding is required, learners connect language use for different purposes, linguistic competence should be developed, it needs the NLD teacher and the foreign language teacher to work collaboratively and, above all, it should be motivating for students and teachers. Professor Mattheoudakis, when interviewed by Griva (2017: 16) says that, broadly speaking, CLIL "is expected to provide linguistic, cognitive and sociocultural benefits similar to those of bilingual education programmes"; moreover, she suitably adds that "a CLIL model is good if it promotes the linguistic and cognitive development of the learners [and] it is largely dependent on the teacher" (Mattheoudakis, in Griva, 2017: 17). In fact, Pavón-Vázquez and Ellison (2013: 69) make plain that "the essential questions about CLIL are who should be responsible for teaching content through the second language and how this should be done", yet reminding that "CLIL is demanding for teachers in terms of adjusting practice and developing competences, and that prior training is essential" (Ibid.). It is for this reason that we now have to concentrate on the best ways to integrate content and language and teacher collaboration, for our analysis to be consistent, which could be conceptualised as follows:

COMBINATION OF ELEMENTS FOR SUCCESSFUL CLIL			
Teacher collaboration	Content/language balance	Attention to form	Language *through* learning (*Language Tryptich*)

Table 1. Combination of elements for successful CLIL

Firstly, in regard to planning and teaching for successful CLIL, we have to speak briefly of Meyer's strategies and *CLIL-Pyramid* (2010), useful to our purpose because they summarise what has been discussed so far and are also connected with the following parts of this study. The author lists six strategies or quality principles based on insights from "CLIL research, second language acquisition, teaching methodology, cognitive psychology, extensive classroom observation in several countries, as well as a critical reflection" (Meyer, 2010: 13); these are enumerated below, with some of their most critical details to us:

1. *Rich input*: "especially in CLIL classrooms, teacher feedback, systematic

and professional error treatment, is crucial for successful learning" (Meyer, 2010: 14)

2. *Scaffolding learning*: "learners (…) need to be taught how to learn efficiently (…) their motivation for language learning often increases once they understand how and in which order to proceed, and which phrases to use" (Meyer, 2010: 16)

3. *Rich interaction and pushed output*: "student interaction and output is triggered by tasks, which is why task design is at the heart of every CLIL lesson and one of the key competences for every CLIL teacher" (Meyer, 2010: 17)

4. *Adding the (inter-) cultural dimension*: "intercultural communicative competence needs to be the ultimate educational goal and at the heart of our teaching" (Meyer, 2010: 19-20)

5. *Make it H.O.T. [Higher Order Thinking]*: "input, tasks, output and scaffolding have to be balanced [and] systematic language work is of paramount importance" (Meyer, 2010: 21)

6. *Sustainable learning*: "teachers have to facilitate both the learning of the specific content and the learning/acquisition of a foreign language [and] adopt a translaguaging approach (…) by making strategic use of the L1" (Meyer, 2010: 22)

Taking these strategies into consideration, and acknowledging the significance of Coyle's *4Cs Framework* (Coyle et al., 2010), Meyer (2010) designs his *CLIL-Pyramid*, which is "an integrative planning tool for (…) lesson planners [that] has been successfully used in both pre- and in-service teacher training (…) across Europe" (Meyer, 2010: 13). The author explains the philosophy behind the Pyramid as follows:

> [It] was designed to visually represent the idea that quality CLIL, based on the tenets of the 4Cs Framework, can only be achieved when all the four Cs are considered in lesson planning and materials construction. The four Cs are the cornerstones of the base area of the CLIL-Pyramid which comes into existence when one tries to find the point where lines originating from each corners meet. [It] suggests a systematical, tried and tested sequence for planning CLIL units and materials, starting with topic selection and ending with a review of key content and language elements that we have come to call 'the CLIL workout' (Meyer, 2010: 23).
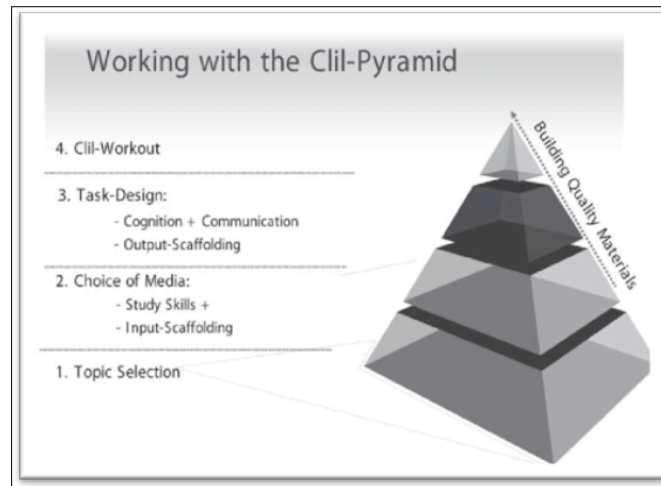
Figure 4. The CLIL Pyramid (Meyer, 2010, p. 24)

On the one hand, the 4Cs Framework offers a solid pedagogical and methodological base for effective CLIL teaching and learning; on the other hand, by using the Pyramid as a planning tool, following the strategies listed above, teachers now have "a proven sequence" (Meyer, 2010: 26) to work with; its true potential lies in that it provides CLIL practitioners with the means to build and bear connections between different subjects or topics and "by making explicit the study skills and literacies which might drastically change the way we think about curriculum planning and the way we structure classroom learning" (Ibid.).

But we cannot talk about success in CLIL programmes without refering to the need for teacher training and, most importantly, teacher collaboration. We have already placed emphasis on the importance of a close and constant collaboration between the NLD teacher and the foreign language teacher; this is an indispensable condition for success in CLIL (Costa & D'Angelo, 2011; Anderson et al., 2015; Martín del Pozo, 2016). As a matter of fact, Costa and D'Angelo (2011: 4) assert that this alliance is like "a sort of community of practice: the first works mainly on the textual level, the second on sentence grammar" – here, we should refer back to Martínez-Adrián and Gutiérrez-Mangado (2015) when they talked about the connection between CLIL classes and EFL classes. Besides, it is accepted that the more collaboration there is, the richer the language learning environment that is created, promoting "linguistic awareness in all the teachers involved" (Costa & D'Angelo, 2011: 4). Sadly, there is empirical evidence that some CLIL programmes have failed because teachers lack the necessary language-teaching knowledge and abilities (Anderson et al., 2015). Underlying this limitation, researchers recognise that having a good command of the mother language – on the part of both the teachers and the students – is a

prerequisite for CLIL to be successful; if not, the quality of the learning outcomes would be degraded (Lázaro-Ibarrola & García-Mayo, 2012; Ravelo, 2014; Kelly, 2014; Pavón et al, 2014); indeed, CLIL brings to the fore both the learning of content and language, "all the learner's languages, *including their L1*, and not merely *foreign* or *additional* languages" (Anderson et al., 2015: 145).

Of utmost importance for successful CLIL implementation and in relation to teacher collaboration and to our advocacy for a more focus on form approach in this setting, is the integration of content and language, although research in this matter is scant (Reitbauer et al., 2018). With reference to this key issue, a batch of research contend that it is often the case that content/NLD teachers are not aware of the important role attached to language in CLIL environments (Reitbauer et al., 2018). Over and above this, another concern is that not all teachers have been trained to be language teachers (García-Herreros Machado, 2017; Reitbauer et al., 2018); but as Martín del Pozo (2016, 154) beautifully expresses, "it is not required that CLIL teachers should be language experts, only reflective practitioners". To overcome this lack of linguistic competence in content teachers, it is desirable that they be conscious as to the potential benefits that linguistics may offer, such as Second Language Acquisition (Doiz & Lasagabaster, 2017) and I strongly advise that they should be up to date with these theories. What is more, "the centrality of the process of integration means that teachers would also do well to develop a familiarity with some basic concepts of cognitive linguistics [and cognitive psychology]" (Reitbauer et al., 2018: 91), and this is something that teacher training courses, by force of circumstance, have to address in my view.

Anyhow, content teachers frequently think that linguistic proficiency is not of their concern and they turn to foreign language teachers so that they lend a hand, which is my experience. The truth is that the role of language is often underestimated, but it is vitally important that we are aware that language learning is not spontaneous whenever an L2 is used as a vehicular or 'additional' language, and that language is a tool to bring together content and thinking (Meyer et al., 2015; García-Herreros Machado, 2017; Reitbauer et al., 2018), playing a "central role in the discovery, identification and storage of new knowledge, since it allows knowledge to be transmitted" (Reitbauer et al., 2018: 93). In sum, it is mandatory that CLIL teacher training include cognitive-linguistic principles that are indispensable to success in the integration of language and content[11], because only this

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[11] See Dafouz-Milne, Llinares and Morton (2010) for a scaffolding framework for CLIL teacher education and Bertaux, Coonan, Frigols-Martín and Mehisto (2010) for their CLIL teacher's competence grid

will make it "easier to accept that every teacher is, in some way, also a language teacher" (Reitbauer et al., 2018: 99). To conclude, CLIL teacher training has to consider SLA and cognitive linguistics; this is challenging, but also a prerequisite for successful implementation. It is on these insights that we now reflect.

5 INSIGHTS FROM SECOND LANGUAGE ACQUISITION AND COGNITIVE PSYCHOLOGY

Second Language Acquisition (SLA) and Cognitive Psychology are in the background of CLIL. The majority of the questions that the former arises are mirrored in the latter, for they have similar preoccupations. Firstly, we will provide a definition of SLA and its domain; secondly, we will point at its connection both with Cognitive Psychology and our review. Our discussion on the topic will be based on renowned publications from David Nunan, Merrill Swain and Rod Ellis, among others. This revision is necessary in order to understand the existing debate around CLIL implementation.

According to Nunan (2001: 87), the concept of SLA refers simply to "the processes through which someone acquires one or more second or foreign languages". The term is related to both natural (informal) and classroom (formal) environments and, as the author argues, investigators are concerned not only with *products*, but also with *processes*. The former deal with the language that learners of a second language use throughout the different stages in the process of acquisition; the latter study to what extent this acquisition process is influenced by the mental process and other factors that surround the learner (Nunan, 2001).

A very important notion of this discipline is the *contrastive analysis* (CA) *hypothesis*, which as its very name suggests, studies the similarities and differences between a learner's native language (L1) and a target language (L2). This hypothesis was the result of the influence of L1 on the acquisition of a given L2 language, claiming that errors are the natural consequence when these two systems are in conflict. The CA hypothesis explains that there are two explanations for errors: 'negative transfer' and 'positive transfer'. The former obstructs learning and the latter aids it – an example of 'negative transfer' would be the omission of subjects in English, which is acceptable in Spanish. Thus, exponents of CA maintain that if one compares the two linguistic systems, the difficulties that students will encounter when learning a foreign language are predictable (Nunan, 2001). Moreover, there are those who maintain that the L1 plays indeed a crucial role in foreign-language learning.

This principle of the intrusion of the first language – or mother tongue – in the study of a second language is shared by Behaviourism, which understood the learning of a language as the development and consolidation of habits. Behaviourism assumed that the habits one had experienced when learning the first language would be the basis for the learning of a second language (Nunan, 2001; Lightbown & Spada, 2006). But not surprisingly, these two theories were shown to be inadequate for a description of how SLA develops thanks to a series of investigations of learner's errors, as Nunan (2001: 88) justifies:

> The systematic study of learner's errors revealed interesting insights into SLA process. First, learners made errors that were not predicted by the CA hypothesis. Second, the errors that learners made were systematic, rather than random. Third, learners appeared to move through a series of stages as they developed competence in the target language.

According to Lightbown and Spada (2006), the rejection of the CA hypothesis and Behaviourism was due to the impact of Chomsky's critique of them and, more precisely, his theory of the *Universal Grammar* (UG). The authors mention linguists that have both supported (Lydia White) and denied (Robert Bley Vroman and Vivian Cook) Chomsky's theory, and conclude that even those researchers who still work with this framework "differ in their hypotheses about how formal instruction (…) will affect learners' knowledge of the second language" (Lightbown & Spada, 2006: 36). In other words, learners do need explicit information about how the foreign language system works, because if they transfer the patterns from their L1 knowledge to their L2 without bearing in mind the differences between the two, they run the risk of fossilization. This will hinder the acquisition of the L2 language. This is the reason why the aforementioned scholars assert that formal teaching of grammar is indispensable, among other things.

Stephen Krashen's *Monitor Model*, which will occupy part of our next section, was influenced by Chomsky's model of SLA. His theory will receive a substantial amount of criticism in a number of areas, despite the fact that his assumptions "have been a source of ideas for research in second language acquisition" (Lightbown & Spada, 2006: 38). Nonetheless, it is thanks to Krashen's *radical* theory that a merging of approaches as relates the place of grammar in the EFL classroom is possible nowadays.

Cognitive Psychology, on the other hand, has been of tremendous help to SLA since the 1990s and psychological theories are deemed to be central to research in the field. Psychologists have been at variance with Krashen's differentiation between 'acquisition' and 'learning', calling into question the Monitor Model he designed in terms of five hypotheses – the *acquisition-learning hypothesis*, the *monitor hypothesis*, the *natural order*

hypothesis, the *input hypothesis*, and the *affective filter hypothesis*[12]. As we will see, the input hypothesis is the most important for the object of study in mind. Again, SLA owes a lot to this hypothesis and it is going to be the basis for a considerable amount of research.

Cognitive psychologists too, will develop some of the current directions in the teaching and learning of foreign languages, like those posed by *Information-Processing Instruction* (or processing instruction), Richard Schmidt's *noticing hypothesis* (1990) or Merrill Swain's *output theory* (1994; Swain & Lapkin, 1995, 1998).

For these reasons, if we are going to review the postulations around the position of grammar in the classroom, Cognitive Psychology is needed. Special attention should be given to the nature and characteristics of implicit learning; as reported by Ellis, Loewen, Elder, Erlam, Philp and Reinders (2009: 3), "the focus of research in cognitive psychology has been on whether implicit learning can take place, and, if does, how it can best be explained". We are not going to study this focus in depth, since it is not the aim of this dissertation, but it is imperative that we comment on some issues.

On a final note about this relationship between SLA and Cognitive Psychology, we would like to mention what we acknowledge to be of real value and is perfectly clear in Bergillos and Moore (2005: 415):

> Findings in the area of Second Language Acquisition showed time and again that most grammar was learnt incidentally (…) This conclusion – rooted in cognitive psychology – surprised most L2 teachers who then had to deeply reconsider not only their way of teaching but also their own philosophy of education, for the new findings demanded more active classrooms, more participative classroom dynamics as well as more language experimentation by learners.

These lines offer a compelling summary of our motivations to conduct this literature review – 'active classrooms' and 'language experimentation', the latter being an outstanding feature of CLIL and other form-focused approaches. We expect that the ideas outlined lead to a better understanding and increased awareness on how the teaching and learning of a language in general, and grammar in particular, should be focused on helping and encouraging the learner.

5.1   Controversies among researchers and practitioners

5.1.1 On the inductive and deductive approach

First of all, here are two important definitions:
- a *deductive* (*rule-driven* learning) approach starts with the presentation of a rule and is followed by examples in which the rule is applied

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[12] See Lightbown and Spada (2006) for a description of each of them

- an *inductive* (*discovery* learning) approach starts with some examples from which a rule is inferred (Thornbury, 2001: 29)

The *deductive* approach to the teaching and learning of grammar is characterised by the explicit presentation of rules. It is typical – dominant, in fact – of many EFL materials nowadays to find an explanation on the first and second conditionals, for example, and then we are asked to complete a series of exercises to practice the structures. When grammatical rules are offered in this approach, Widodo (2006: 127) highlights, "the presentation should be illustrated with examples, be short [and] involve students' comprehension". Something that certainly implies that it is the teacher who makes the greatest effort, since the student is not asked to draw any further conclusions and he simply receives the information – one could say that this approach favours more passive students. Be that as it may, this approach does have a number of advantages for the EFL classroom and its students, as listed by Thornbury (2001: 30):

1. It gets straight to the point, and can therefore be time-saving (…). This will allow more time for practice and application.

2. It (…) acknowledges the role of cognitive processes in language acquisition.

3. It confirms many students' expectations about classroom learning.

4. It allows the teacher to deal with language points as they come up, rather than have to anticipate them and prepare for them in advance.

The *inductive* horizon stems from a different angle. When we work using induction, we begin with specific examples from which we infer a more general concept (Widodo, 2006). Ergo, learners are asked to work out the grammatical rules for themselves (this is why it is also known as *rule-discovery learning*) and learn how language is used in context. This approach would ask for more independent and active students. The teacher also works in a different manner; instead of beginning the lesson with an explicit teaching of the grammar rule in question, he first presents some examples in context – with the deductive approach, the examples can be easily decontextualised – and then he is relegated to a secondary position. It is the learner who is in control of his own instruction. In addition to this, which we consider of paramount importance, this approach "encourages a learner to develop her/his own mental set of strategies for dealing with tasks" (Widodo, 2006: 128). The student follows his own pace and he makes an effort in commanding and restructuring his previous knowledge. This, in turn, will prepare him for more advanced levels in which the cognitive strategies he would use might be of a deeper complexity.

These are the advantages of the inductive approach we considered remarkable as listed by Thornbury (2001: 54):

1. Rules learners discover for themselves are more likely to fit their existing mental structures than

rules they have been presented with. This in turn will make the rules more meaningful [and] memorable.

2. Students are more actively involved in the learning process [and] more motivated.

3. Favours pattern-recognition and problem-solving abilities (…). If the problem-solving is done collaboratively, and in the target language, learners get the opportunity for extra language practice.

4. Working things out for themselves prepares students for greater self-reliance and is therefore conducive to learner autonomy.

An influential examination of deductive versus inductive rule getting which is very suitable for our study is made by Larsen-Freeman (2015); the question she posits is the following: "do students learn rules best by being given them deductively by their teachers (…) or are students better off being given examples from which they work out the rules inductively themselves?" (2015: 268); further, on learner preferences, she says that "research has shown that learners favor a deductive approach, where they are provided the rules" (Ibid.).

Yet, in line with the dissensions already presented in the review, "no research has investigated how incomplete and imprecise notions of inductive or deductive grammar approach or unsuccessful adoption of each might lead to its complete failure" (Allahyar & Ramezanpour, 2011: 241). Similarly, examining the efficacy of inductive and deductive approaches, Larsen-Freeman (2015: 268) observes that "neither approach has been consistently favored". This is one of the reasons why we call for a middle ground approach; and we do believe that intermingling both deductive and inductive approaches can be indeed very effective.

Although one might be inclined to favour the inductive approach for many reasons (learner autonomy, learner motivation and its problem-solving nature, in particular) it is nonetheless true, as in the case of explicit and implicit knowledge and learning, that for the classroom, both approaches are complementary, and the advantages offered by a deductive approach have to be necessarily considered. Prince and Felder (2006, as cited in Allahyar & Ramezanpour, 2011: 241) point out that:

> Learning invariably involves movement on both directions, with the student using new observations to infer rules and theories (induction) and then testing the theories by using them to deduce consequences and applications that can be verified experimentally (deduction).

It is therefore important to emphasise that both approaches offer great opportunities to the learner; but it is even more urgent that we learn to overcome extremes in order to benefit the learner, leaving 'teaching ideologies' aside.

Again, there has been no agreement as regards teachers' beliefs and practices in formal contexts, but we do coincide with Allahyar and Ramezanpour (2011) in the fact that

there is not a purely deductive or purely inductive teaching and learning of grammar, because there is a real probability that we would find ourselves halfway between the two approaches. Needless to say, the type of learners and their level of proficiency will determine the approach employed. With respect to this, Krashen brilliantly evinces, "if there are individual differences in preference of rule presentation (…), insistence on the 'wrong' approach for the grammar portion of the language teaching program may raise anxieties" (2009: 101).

Therefore, for all these abovementioned issues, we must consistently remind ourselves that the centre of the teaching-learning process is the student; that we have to provide him with a variety of methodologies, techniques and strategies to make the most of his learning experience, so that he can increasingly become autonomous – this refers back to the potential of the CLIL approach. As long as teaching and learning in formal contexts is one more way of socialising, both parties would have to strive for an environment in which they are comfortable and could enjoy the foreign language. With almost total certainty, this atmosphere will be placed away from the two extremes. Having outlined the inductive and deductive approach, it is now high time that we delve into an additional crucial dichotomy: implicit and explicit learning.

5.1.2 On implicit and explicit learning

The questions of whether to teach grammar, which approach to use, from which kind of knowledge should be the information retrieved, and how it should be best taught lie at the heart of the implicit-versus-explicit controversy. In fact, Ellis et al., (2009: 3) already pointed out that "the distinctions relating to implicit/explicit learning and knowledge originated in cognitive psychology". Linguists and practitioners have tried to balance and weight both sides, examining the advantages and disadvantages of each construct. Nevertheless, the most widespread interrogation has been an apparently simple one: *should grammar be taught implicitly or explicitly?* For the most part, however, the answer is uncertain. The majority of researchers position themselves in one or other extreme of the debate and, although it is difficult for us not to recognise that both sides offer significant contributions to the learning and teaching of grammar.

First and foremost, we should consider that SLA (drawing on Chomsky's theories) and Cognitive Psychology have two conflicting positions to examine what 'linguistic knowledge' means (Ellis et al., 2009). Notwithstanding, there is one very significant aspect

in which both of them agree: linguistic L2 knowledge consists largely of "implicit L2 knowledge and see the goal of theory as explaining how this implicit knowledge is acquired" (Ellis et al., 2009: 11). These are significant considerations that need to be borne in mind. As one can imagine, literature on SLA and Cognitive Psychology is replete with definitions of implicit and explicit learning, but Ellis (2008, as cited in Scheffler & Cinciala, 2010: 13), whose work is celebrated in SLA, offers one that is particularly convincing:

> *Implicit knowledge [or 'learning']* is intuitive, procedural, systematically variable, and automatic and thus available for use in fluent unplanned language use. It is not verbalizable. […] *Explicit knowledge [or 'learning']* is conscious, declarative, anomalous, and inconsistent […] and is only accessible through controlled processing in planned language use. It is verbalizable, in which case it entails semi-technical or technical metalanguage.

From this definition, we can infer that explicit L2 learning does not arise in spontaneous and fluent communication, because there is not enough time to access the information that is stored and we do not usually have time to plan what we want to say. On the contrary, we will resort to explicit knowledge if, for instance, we complete an exercise with gaps to fill in, and we have to choose between present simple and present perfect. Here, where there is time to plan and access information, we will have to think about the difference between the tenses, the cases in which each of them are used, et cetera.

With respect to these constructs, Criado, Sánchez and Cantos (2010: 105), in an empirical study seeking to measure the degree of implicitness and explicitness in materials, give an excellent definition that is worth noticing too. It brings together knowledge, learning and memory:

> When applied to knowledge, *explicit* stands for a conscious kind of information, which we may therefore control and be aware of. Explicit as applied to learning refers to a specific way of acquiring this type of knowledge, through the activation of consciousness and intentionality. Explicit as applied to memory refers to a particular way of storing information in our memory, that is, keeping it on-line, consciously controlled and managed. The term *implicit* runs parallel to *explicit* in each one of the instances mentioned above, but in the opposite direction.

The information provided by these definitions is wonderful, inasmuch as they cover numerous particularities, and it comprises the most distinctive characteristics. Criado et al., (2010: 105) also clarify that *explicit* implies "consciousness, awareness and/or reasoning", whereas *implicit* excludes them, although the concepts of 'consciousness' and 'awareness' remain controversial too.

For the sake of clarity, we will define two labels that are often equated with explicit and implicit knowledge: *declarative* and *procedural* knowledge (hereafter DEC and PRO). The former is defined as 'knowledge-that' and the latter would be 'knowledge-how', which complement each other (Criado & Sánchez, 2009). On the one hand, DEC is the

knowledge that we can access easily, the knowledge that can be declared and the knowledge we are conscious of; therefore, it can be verbalised – i.e. we can explain to someone else how do we form the superlative of three-syllable adjectives. And, on the other, we are not conscious of PRO, as it appears automatically (Criado et al., 2010). It goes without saying that different teaching methods give primacy to different kinds of knowledge. Therefore, it can be concluded that if we argue for a teaching-learning environment in which the learner is active and focuses not only on grammatical rules but also on fluent communication, as is the case of CLIL, we will call for a combination of methodologies that put together implicitness, explicitness and deductive and inductive learning.

In order to support the definitions above, the criteria that are used to label implicit and explicit knowledge of a foreign language are now presented – we will adhere to and quote Ellis et al.,' s seminal categorization (2009: 11- 14):

a)   Implicit knowledge is tacit and intuitive whereas explicit knowledge is conscious.

b)   Implicit knowledge is procedural whereas explicit knowledge is declarative.

c)   L2 learner's procedural rules may or may not be target-like while their declarative rules are often imprecise and inaccurate.

d)   Implicit knowledge is available through automatic processing whereas explicit knowledge is generally accessible only through controlled processing.

e)   Default L2 production relies on implicit knowledge, but difficulty in performing a language task may result in the learner attempting to exploit explicit knowledge.

f)   Implicit knowledge is only evident in learner's verbal behaviour whereas explicit knowledge is verbalizable.

g)   There are limits on most learners' ability to acquire implicit knowledge whereas most explicit knowledge is learnable.

h)   L2 performance utilizes a combination of implicit and explicit knowledge.

As far as implicit and explicit learning is concerned, one the most extensive studies found is the one made by Robert DeKeyser with the findings in Cognitive Psychology. DeKeyser (2003) mentions Arthur Reber as being the founding father of implicit learning research, signalling that for him, the most outstanding discovery was an absence of consciousness of the linguistic pattern studied. Conforming to this interpretation, he concludes that implicit learning is "learning without awareness of what is being learned" (DeKeyser, 2003: 314). Other authors (i.e., Ellis et al., 2009: 3) agree with this, asserting that "learners remain unaware of the learning that has taken place (…) Thus, learners cannot verbalize what they have learned". We can see how these notions run parallel to those to classify knowledge, as Criado et al., (2010) illustrated above.

Ellis et al., also depart from research on Cognitive Psychology and say that, by

contrast, explicit learning manifests itself when "learners are aware that they have learned something and can verbalize what they have learned" (2009: 3); besides, it involves memorization and consciousness, resulting in knowledge that is explicit (Ellis et al., 2009). At any rate – and in line with the whole debate – there are many authors in the field who question if any type of learning is actually possible without awareness.

Linguists and cognitive psychologists agree with the fact that 'explicit' is directly associated with 'consciousness', but this consensus is not found in the case of implicit learning, though "all theorists would accept that it excludes metalinguistic awareness" (Ellis et al., 2009: 7), which is one of the features of explicit learning. These oppositions, and whether the two systems, implicit and explicit, are dissociated or not, have also been a matter of huge controversy among researchers in Cognitive Psychology. Still, in the literature examined for this review, we found no answer for this issue either.

Having shown this lack of concord, it is difficult for us to give a single and definite definition to the two types of learning. But in agreement with the vast majority of studies (for instance, Criado et al., 2010; Ellis et al., 2009; Schmidt 2010), neither do we have conscious control of implicit knowledge, nor of implicit learning. In addition to this, there are no studies that demonstrate that one type of learning works better than the other (Ellis et. al., 2009).

Simultaneously, it is not a coincidence that several theoreticians maintain that the acquisition of an L2 is largely associated with the development of implicit knowledge (Ellis et al., 2009), which actually makes sense. Once we have stored the information in our implicit memory – or long-term memory – it is expected to arise naturally and in fluent spontaneous communication, because we do not have to think about what we are going to say and we already know what linguistic form is appropriate in each situation. This does not mean that explicit knowledge – or explicit learning – does not contribute to the process, though. In other words, even if we agree that "the goal of instruction should be implicit knowledge" insofar as it will lead to L2 acquisition, "explicit teaching of grammar can help learners to achieve this goal" (Scheffler & Cinciala, 2010: 14). Hence, we are not in a position to disregard the crucial role played by explicit knowledge, learning and teaching in the development of communicative competence and L2 proficiency. Consequently, the teaching and learning of explicit grammar rules is a necessary first step to communicate accurately and fluently. Additionally, on the appropriacy of giving learners explicit rules, Larsen-Freeman mentions Norris and Ortega (2000), who found "a positive effect of explicit teaching" (2015: 267) and Swain and Lapkin (1998) who "also found benefits

when students made opportunities for themselves to discuss grammar explicitly in 'language-related episodes'" (Ibid.).

To finish with this implicit-versus-explicit dichotomy, we must provide the reader with the eight most elemental properties of explicit teaching illustrated by Criado et al., (2010: 111) with the sole purpose of making the review more comprehensible, namely:

> (i) it looks for awareness of formal aspects of language, (ii) it focuses on metalinguistic information of the language, (iii) it promotes declarative knowledge on the language, (iv) it focuses primarily on form, (v) it favours linguistic accuracy, (vi) it uses non-authentic materials and requires the use of L1, (vii) it aims at controlled use of the language, and, last but not least, (viii) it entails non-meaningful mechanical repetition.

We now go into the subject of the formal instruction of L2 grammar, reviewing different perspectives on the teaching of grammar and form-focused instruction in CLIL settings.

6   OVERVIEW OF L2 INSTRUCTION METHODOLOGIES: FOCUSING ON LANGUAGE THROUGH LEARNING

6.1   Perspectives on grammar and L2 teaching

By way of introduction, it is imperative that we analyse the trajectory of the different methodologies to better understand the complete picture we have today. The following is a recapitulation of several notable authorities, in particular Canale and Swain (1980, re-edited several times, given its importance), Larsen-Freeman (2000), Nunan and Carter (2013), or Celce-Murcia, Brinton and Snow (2014). Not all of them are referred to, only those that led us to understand the CLIL approach. Today, (foreign) language teaching is based on theories and traditions which came into view in the late twentieth century.

According to Larsen-Freeman (2014, 2015), from a historical perspective, two significant approaches to teaching grammar have prevailed in the teaching of an L2; one of them assumes the teaching of grammatical forms in an analytical way, and the other by language use. That is to say, the former refers to a 'language-focused approach' and the latter to a 'focus on meaning approach'.

The focus on language approach is not without controversy, though (Larsen-Freeman, 2014; Zhu, 2016). Informed by Chomsky's (1957) *Universal Grammar* theory and behaviourism, it presupposes that the target language is learnt as a subject. Not only this, but it also assumes that language consists of content words and grammatical words and that L2 acquisition is clearly divergent to first language learning (Chomsky, 1981, 1986; Mitchell & Myles, 2004, as reviewed in Zhu, 2016). The 'form-focused grammar-

translation method' is a teaching approach that emerged from this perspective, emphasising reading comprehension and written expression, with the sole goal of learning through the memorisation of grammar rules (Zhu, 2016). Other approaches that have predominated, with a focus on grammar and with similar theoretical backgrounds to it, are the Total Physical Response, the Audio Lingual Method, the Silent Way and, of course, the Grammar Translation Method. Let us make some brief remarks about a few of them.

The *Audiolingual Method* emerged in the late 1950s, which was similar to an earlier one called the *Direct Method*. Audiolingualism is only mentioned to present a method that is in strict opposition to the CLIL approach because of many reasons. Following Skinner's behaviourism, the key to language learning were repetition and reinforcement; students' role was limited to the reproduction of accurate responses, and little attention was paid to content or meaning. For its part, the *Grammar-Translation Method* was commonplace before the 1970s, a time when the prevailing approaches had grammar as a key pillar. Language was studied by means of an extensive analysis of grammar, with the purpose of translating phrases, sentences and whole texts. In terms of skills development, listening and speaking were overlooked.

It has long been observed that with these methods, learners were not proficient in grammatical terms, although Chomskyan Universal Grammar's contribution is undisputed (Long & Robinson, 1998; Larsen-Freeman, 2015; Zhu, 2016):

> Unfortunately those grammar focused approaches that teach the target language as a subject have been demonstrated to be neither effective nor sufficient in developing learners' target language communicative competence skills. The contribution of Universal Grammar theory in language analysis nevertheless needs to be recognised. (Zhu, 2016: 47)

Once this drawback was recognised, a move towards input and interaction was advocated from the 1980s, towards a focus on communication in L2 instruction and, eventually, towards immersion. Following this shift, the rules of the language passed to a second tier and the communicative character of language use came to the forefront, without leaving out the help of cognitive psychology (Spada, 2017). The emphasis of the focus on meaning approach attests to "successful L2 acquisition through incidental and implicit exposure to comprehensible target language, in much the same way as children acquire their first language" (Zhu, 2016: 48) – the author adds that "immersion[13] is one of these content-based approaches" (Ibid.).

For the benefit of a renewal in education, fresher approaches appeared in the span

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[13] See Johnson and Swain (2009) for the central characteristics of the immersion approach as a form of bilingual education

between the 1970s and the 1980s which *metamorphosed* foreign language teaching, foreshadowing communicative approaches. The philosophy behind the *Communicative Approach* (notice that 'approach' is used, instead of 'method'[14]) is that interaction and, ultimately, 'communicative competence' (Hymes, 1992), should be the focus of language teaching, leaving the mastery of structures aside. It is for this reason that it has been claimed to be the most effective methodology. In this approach, grammar is used as a means to express functions, that is, a focus on language is needed, but always bearing in mind that communication is the goal.

Communicative language teaching (CLT) owes much to the research conducted by Larsen-Freeman (1999, 2000), who reviewed fourteen different methods of L2 teaching and introduced its postulates as follows:

> Communicative language teaching aims broadly to apply the theoretical perspective of the Communicative Approach by making communicative competence the goal of language teaching and by acknowledging the interdependence of language and communication. (Larsen-Freeman, 2010: 121)

Canale and Swain (1980, as reviewed in Bagarić & Mihaljević Djigunović, 2007), summarise the main principles that underlie this approach:

- Communication is the main function of language; this is why the target is communicative competence. For this reason, errors are tolerated.

- Functions and sociolinguistic contexts are interdependent.

- Learning is promoted by doing meaningful activities, that is, those which involve real communication. For this, real materials are used.

- And lastly, lessons are learner-centred and the language teacher is a facilitator of learning.

For Spada (2017: 7), in the 'weak' or 'balanced' type of CLT, grammar instruction and communication run side by side: "the focus is on meaningful input, communicative interaction and fluency but not to the explosion of the development of accuracy through grammar instruction and corrective feedback". Interestingly, she compares this version of CLT to form-focused instruction.

A natural development of the Communicative Approach is *Content-Based Instruction (CBI)*. Following Banegas (2012, 2017), CBI and CLIL are "two broad

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[14] "'Approach' is a specification of the assumptions and beliefs about the nature of language and language learning; 'method' is concerned with the selection and grading of teaching materials." (Bahumaid, 2012: 446)

approaches" (2012: 112) which emanated from the integration over the last two decades of subject-matter content and English language learning in educational contexts. What is more, "both CBI and CLIL offer multiple models and approaches which could be seen as a continuum which goes from a focus on foreign or second language learning, at one end, to a greater interest in curricular instruction through an L2, at the other end", he adds (Banegas, 2012: 117). In CBI, listening, reading, speaking and writing are regarded in an integrated way, as in CLIL. The Communicative Approach has unfolded in an evolution of the CLIL approach, the "ultimate communicative methodology" for Graddol (2006: 86). What is clear is that the learning environment is paramount in any kind of learning, whether it is content or language. Referring back to the *Grammar-Translation Method*, the problem was its lack of transferability to real life; similarly, the *Direct Method* was too teacher-fronted and did not take into account those students who worked at a slower pace. But CLIL appears as an approach that is open to all the stakeholders involved.

Continuing with the trajectory of grammar in L2 instruction, in the mid-1980s, as Zhu (2016) explains, a batch of researchers questioned the degree of language proficiency achieved by immersion students in terms of productive skills. Added to this, there was also disagreement over the the potential benefits of an approach with a sole focus on meaning. They justified this by saying that, firstly, "some grammatical features simply cannot be learnt by only positive exposure to the target language" (Zhu, 2016: 50) and, secondly, the fact that immersion students were provided with insufficient language features hindered progress in language proficiency. To conclude, there is constitute evidence that "the process of L2 acquisition is more efficient for learners who receive formal instruction in a language than otherwise" (Zhu, 2016: 50), which is confirmed by a handful of studies – by way of illustration, Larsen-Freeman (2015) mentions Swain and Lapkin (1998), Housen, Pierrard and Van Daele (2005), Sheen (2005), Pawlak (2007), or Spada and Tomita (2010). The state of play is "why is it that teachers have not abandoned explicit grammar instruction as they have been advised to do so" (Larsen-Freeman, 2015: 265). The recognition of the effectiveness of formal grammar instruction lead to the development of form-focused instruction (FFI), which we now present. A revision of FFI is mandatory if we are to justify the explicit teaching of grammar in CLIL lessons.

6.2 Form-Focused Instruction in CLIL settings

Form-focused instruction is defined as "any pedagogical effort which is used to draw the learners' attention to language form either implicitly or explicitly (…) whithin meaning-based approaches" (Spada, 1997: 73, as cited in Spada, 2017: 7-8). The *Focus on Form* (FonF) approach was introduced by Long back in 1988 and, basically, he referred to it as a "shift in emphasis from meaning to grammar during a communicative language process" (Zhu, 2016: 30-31) and he stressed that it must happen "incidentally as the need for grammar attention arises" (Zhu, 2016: 57). FFI then expands the original approach to include "any planned or incidental instructional activity that is intended to induce language learners to pay attention to linguistic form"[15] (Ellis, 2001: 1-2, as cited in Zhu, 2016: 31). With regard to grammar instruction and communicative settings, Lightbown already stated that "teachers who focus learners' attention on specific language features during the interactive, communicative activities of the class are more effective than those who never focus on form or do so in isolated grammar lessons" (1998: 192, as cited in Zhu, 2016: 58) – this balancing between grammar and content is reinforced by Lyster (2007) or Larsen-Freeman (2015), and before them, VanPatten (1990).

Therefore, FFI broadens the scope of grammar teaching in a meaning-focused environment, which is the case of CLIL. The need for FFI was established following researchers' contentions that it could effectively improve learners' unconscious language use, on the one hand, and that integrating grammatical and content approaches can probably lead to better L2 acquisition, on the other hand (Lyster, 2007; Larsen-Freeman, 2000, 2015; Trahey, 2016). While it is indeed true that language can be learned through exposure to the L2 and in meaning-focused instruction students achieve high levels of fluency, Spada (2007: 263) states that:

> [There is] an emerging consensus in the classroom research literature that the inclusion of form-focused instruction is needed whithin exclusively or primarily meaning-based approaches if learners are to develop higher levels of knowledge and performance in the target language.

In this way, incorporating a focus on language is proven to be beneficial, if not fundamental, to learning. As for the types of FFI that are available, Ellis (2001) divides it into 'planned' (or 'intensive') and 'incidental' (or 'extensive'); in the 'planned' version, "the primary focus is on meaning while the distribution [whether the instruction aims at intensive attention to a single form or extensive attention to a variety of different forms] is intensive" (Ellis, 2001: 22) and in the 'incidental' variety, "the primary focus is again on

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[15] "'Form' is intended to include phonological, lexical, grammatical, and pragmalinguistic aspects of language" (Ellis, 2001: 2)

meaning but (…) the attention given to form is distributed across a range of linguistic features by means of either pre-emptive or reactive (corrective) form-focused episodes" (Ibid.). That is to say, in the former, the linguistic structures to deal with are previously selected and activities to focus on form are done before instruction, but in the latter students direct attention to structures while they are developing the activities. In a similar vein, Spada (2017) distinguishes between 'explicit' and 'implicit' FFI. In her definition, 'explicit' FFI "or direct teaching of language (…) can include metalinguistic information using grammar rules (…) but it can also include visual and/or graphic information about how the target language works" (Spada, 2017: 8), such as arrows; conversely, 'implicit' FFI "is contectualised and embedded within a meaningful context [such as] exposure to exemplars through high frequency input" (Spada, 2017: 9), and she illustrates this second version with an example on adverb placement:

> *I usually wear a white coat when I work. I often work late at night and I always work very hard to save lives. When people come to see me, I always ask them questions about their health. Usually I work in a hospital but sometimes, I work at my office. I frequently work on the weekend. Sick people usually call me.* Who am I? (Ibid.)

Likewise, Spada (2017) notes that evidence supports evidence explicit FFI as being more beneficial than implicit FFI for various language features, although she is well aware of the benefits of combining both to help students – "there appears to be a slight advantage for planned FFI (…) but both planned and incidental FFI contribute positively to L2 learning" (Spada, 2017: 17). The author also studies the posible advantages of merging or separating this ttention to language within meaning-based practice; going back to her own work in Lightbown and Spada (2008), she reminds the reader their conceptualization of 'isolated' and 'integrated' FFI: "in both types (…) attention is given to form and meaning; the main difference is that in isolated FFI, form and meaning-based practice are always separated" (Spada, 2017: 17-18). In this respect, she explains very conveniently that sometimes, separating attention to language is of great help, especially "with learners whose language proficiency is low and thus experience difficulty focusing on form and meaning simultaneously" (Spada, 2017: 22). Nevertheless, she states further that there is a lack of research conducted to investigate the impact of isolated and integrated FFI on L2 learning.

SLA researchers have long been concerned about whether focus on form affects L2 acquisition in communicative classrooms in a positive way, and some warn us of "how challenging it is for L2 learners to focus on language while processing curricular content" (Spada, 2017: 17). For example, Ellis, Basturkmen and Loewen (2001) conclude that FonF

can "successfully be incorporated into communicative lessons without disturbing their flow" (Afitska, 2015: 3); the obvious question that springs up is how to do this successfully. Techniques to approach FonF are heterogeneous; Doughty and Williams (1998) examine them in detail and list a total of eleven according to a set of components, ranging from their obtrusiveness to the degree to which they break up communication. In their classification, the least obtrusive technique is input enhancement, "subtle means of visually magnifying the form in focus" (Trahey, 2016: 22). As might be expected, FFI activities can also be explicit or implicit, On his part, Lyster (2004) found that 'prompts' were more effective to deliver FFI; these are "an implicit form of corrective feedback where the expert language user (usually the teacher) responds to an error by eliciting a response from the learner" (Afitska, 2015: 4).

The main theoretical foundation of for FFI is cognitive theory and the FFI framework is considered through the transformation from declarative knowledge to prodedural knowledge and the constructs of implicit and explicit knowledge (discussed earlier in this review) because, in the end, FFI is meant to assist the acquisition of L2 grammar as a language concept to the competence needed to use the language for meaningful communication (Zhu, 2016; Trahey, 2016). This connection between cognitive theory and the FFI approach was already set forth by Lyster (2004, 2007):

> Cognitive theory predicts the feasibility of pushing interlanguage[16] development above and beyond the plateau by means of form-focused instructional options that include noticing and language awareness activities designed to effect change towards more target-like declarative representations, and practice activities designed in tándem with strategic opportunities for feedback to enable learners to proceduralise their knowledge of emerging target forms. (Lyster, 2004: 337).

In this way, he is convinced that noticing – "noticing something in the target language because it is salient or frequent" (Swain, 2000: 100) – raising students' awareness and, ultimately, practice, promote L2 acquisition. Based on this premise, Lyster presents his FFI framework; each step will be briefly discussed. He himself acknowledged that "it is very likely that the main reason for the positive impact of the three FFI practices (noticing, awareness and practice) was that they operate in (…) content-driven environments" (Zhu, 2016: 75), being thus suitable for CLIL lessons, given that although communicative fluency might have been achieved, proficiency in L2 grammar may be questionable.

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[16] "The term interlanguage (IL) was introduced by the American linguist Larry Selinker to refer to the linguistic system evidenced when an adult second-language learner attempts to express meanings in the language being learned. The interlanguage is viewed as a separate linguistic system, clearly different from both the learner's 'native language' (NL) and the 'target language' (TL) being learned, but linked to both NL and TL by interlingual identifications in the perception of the learner." (Tarone, 2006: 747)

Therefore, the main justification for the introduction of this framework in CLIL is that L2 learning may well benefit from a systematic integration of FFI in content-based programmes.

The first step is noticing, a term proposed by Schmidt in 1990, which is defined as "recognition of some crucial point drawn to the attention of the learner" (Zhu, 2016: 77). The *noticing hypothesis* postulates that "input does not become intake for language learning unless it is noticed, that is, consciously registered" (Schmidt, 2010: 2). This noticing can be easily increased whenever a clarification is needed on the part of the student, for example – i.e., when they ask for repetition or further explanations – or by the teacher's change of tone for students to pay attention to a specific linguistic form. But noticing alone does not guarantee success, because forms may not "be incorporated into their developing interlanguage" (Ellis, 2001: 8). This leads us to the second step: awareness-raising.

In this second stage, providing students with feedback is paramount (Lyster, 2004, 2007), as there is strong evidence of the imporance of it being as explicit as posible to facilitate subsequent output. Moreover, Lourdes Ortega, in her influential publication *Understanding Second Language Acquisition* (2009), emphasises that negative feedback, that is, "provid[ing] learners with information about the ungrammaticality of their utterances" (Ortega, 2009: 71), is indeed considered a way of "negotiating meaning or form" (Ibid.). Yet, she admits that some researchers do not believe that negative feedback is effective. Ortega (2009: 71-73) summarises typical forms of feedback in educational settings, a set of strategies that we all have used as language teachers; these are:

- Clarification request (e.g. *sorry?*): when intelligibility is low and meaning itself needs to be negotiated, but with some ungrammaticality present.

- Explicit corrections: a teacher clearly indicates to a student that some choice is non-target like.

- Recast: the teacher repeats the learner utterance, maintaining its meaning but offering a more conventional or mature rendition of the form.

- Elicitation: include moves such as asking *how do we say X?* or directly asking the interlocutor to try again.

- Repetitions, prompts, translations.

I am convinced that these forms of feedback can successfully be included in any

CLIL classroom, as they do not impede communication if done sensibly. Finally, the last step in the FFI framework is production practice, and we must quickly mention Swain's *output hypothesis*. Swain & Lapkin (1995: 372-373) explain the connection between noticing and students' output:

> In producing the L2, a learner will on occasion become aware of (i.e. notice) a linguistic problem (…) Noticing a problem 'pushes' the learner to modify his/her output. In doing so, the learner may sometimes be forced into a more syntactic processing mode that might occur in comprehension. Thus, output may set 'noticing' in train, triggering mental processes that lead to modified output.

The authors explain that the chance to use the target or foreign language to convey meaning has a notable impact on the process of building learners' grammatical accuracy. In this way, production practice in the FFI framework, being "planned, focused and systematic" (Zhu, 2016: 84), is an essential process in building fluency. Lyster (2007: 336) remarks that:

> Practice activities provide learners with important opportunities to proceduralise their declarative knowledge of emerging target-like forms (…) ranging from meaningful collaborative tasks at the communicative end of the spectrum (…) to linguistic games and role plays at the other end.

It goes without saying that in this process, feedback, as explained in the second step of the framework, can significantly help in raising students' awareness of form and also 'the linguistic gap', "noticing the difficult or unsure linguistic element in their target language production" (Zhu, 2016: 87).

It is reasonable to think that learners in a CLIL context can benefit from FFI, also bearing in mind that "they are learning abstract and academic language, they are cognitively and linguistically mature, and have prior knowledge on which to draw – all cases where FFI has been shown to be potentially effective" (Trahey, 2016: 31). Also, the little research that has been carried out with teenagers in L2 contexts or content-based programmes has equally proven positive results; nevertheless, "according to Dalton-Puffer (2011), no experimental studies of FFI have been conducted in CLIL contexts" (Trahey, 2016: 32). Given that, traditionally, "the foreign language class has overwhelmingly involved decontextualized language practice" (Griva, 2017: 79), FFI can help overcome the dissociation of grammar and content. This is connected to the third perspective on language exposed in the language triptych, namely, 'language *through* learning', whereby the use of a particular linguistic form is motivated by the specific content dealt with in the lesson; on the other hand, students produce the appropriate form as they express their ideas on content. Even so, this needs explicit grammar explanations, as it can't be done implicitly alone – "acquisition of content requires acquisition of the relevant form" (Griva, 2017: 80). To conclude, I personally understand grammar as reasoning, "as a skill rather

than as an area of knowledge", as Larsen-Freeman (2003: 13) puts it, and I feel strongly that any CLIL programme is incomplete without some time devoted to focus on form.

Once the state of the question has been offered, a practical example is proposed in the following section for the first year of Compulsory Secondary Education (from now on, CSE) in the subject of Biology and Geology, making an effort to follow the CLIL approach as much as possible.

7 CLIL METHODOLOGY INTO PRACTICE: AN EXAMPLE OF A DIDACTIC UNIT FOLLOWING CLIL PRINCIPLES FOR THE FIRST YEAR OF COMPULSORY SECONDARY EDUCATION IN THE SUBJECT OF BIOLOGY AND GEOLOGY

First of all, I must say that the design and development of this didactic unit (see the attached Appendix) has been a time-consuming process. CLIL supporters recommend that teachers produce their own materials, and even though this would be the ideal, I perfectly understand that this is not the case. It is an arduous task and considering the amount of content included in each subject in the curriculum, teachers are often overstretched. Therefore, the model I present is just a starting point for CLIL methodological implementation. I have chosen the subject of Biology and Geology because it gives rise to text exploitation, in the sense that it is relatively easy to manipulate and modify content to suit your purposes; in other words, I believe that this subject offers many more possibilities in a CLIL environment than Mathematics, Physical Education, or Technology, for example, which are also commonly included under the bilingual programme in our country.

As for the justification of the educational level, I thought it would be appropriate to start with the first cycle of CSE for various reasons. Most of the students who are enrolled in a bilingual programme in high school come from bilingual groups in schools, so the present proposal forms a natural continuity of the subject of Social Sciences in the second stage of Primary Education following LOMCE (the fifth and sixth years); besides, teachers here have a model from which to increase complexity, as this is the first year of CSE. Not only this, the grammatical focus in the unit has been drawn up considering the curriculum of the subject of First Foreign Language (English), which of course includes the *present simple* and the *past simple*. Students are presumably well-acquainted with these forms and, ideally, will not have problems with the command of the foreign language, which means that their understanding of content will not be impaired either. Nevertheless, there is a

greater presence of *present simple* input, as the *past simple* is studied later on in the course; in this way, students consolidate the use of the former and are introduced to the latter. The distribution in the sections of the unit is the following:

SECTIONS	CONTENT	ACTIVITIES	SCIENTIFIC GLOSSARY	CONCEPTUAL MAP
1. The Universe	Present Simple Past Simple	Present Simple: 2 Past Simple: 1, 3 Video: both	Present Simple Past Simple	Present Simple Past Simple
2. Our galaxy	Present Simple	Present Simple: 4, 5	Present Simple	Present Simple
3. The Solar System	Present Simple	Present Simple: 6 Video: Present	Present Simple	Present Simple
4. Planets in the Solar System	Present Simple	Present Simple: 7 Video: Present	Present Simple	Present Simple
5. The Earth's movements	Present Simple Past Simple	Present Simple: 8, 9, 11 Past Simple: 10 Video: both	Present Simple Past Simple	Present Simple Past Simple
6. The Sun, the Earth and the Moon	Present Simple Past Simple	Present Simple: 13, 14 Past Simple: 12 Video: Present	Present Simple Past Simple	Present Simple Past Simple

Table 2. Distribution of grammar in the Didactic Unit

A further pretext for this is that this didactic unit pursues the goal of teacher collaboration between the NLD teacher and the foreign language teacher, as advised in CLIL, so the possibility is open, but strongly recommended, as we will see.

In terms of the theoretical background for the unit designed, I have tried to be as consistent and coherent as possible with the principles underlying CLIL, especially the strategies for successful CLIL as listed by Meyer (2010: 13) and his CLIL-Pyramid (2010), the characteristics of proper teaching in CLIL by Costa & D'Angelo (2011: 10), the "SLA penta-pie" as summarised by Pérez-Cañado (2011: 324) when dealing with effective L2 pedagogy in CLIL environments, the Language Triptych and the 4Cs Framework designed

by Coyle et al. (2010)[17]. Considering these, below are the most important aspects that have been taken into consideration (underlined), all of which have been referred to and thoroughly explained in previous sections; these are explained together with a suggested methodology and some researchers are again quoted to reinforce and better support the rationale behind the development of the didactic unit.

First of all, a <u>blending of extremes</u>, to focus not only on the learner's active involvement, but also on fluent communication – Scheffler & Cinciala (2010: 14) stated that even if "the goal of instruction should be implicit knowledge (…) explicit teaching of grammar can help learners achieve this goal". A middle ground approach is then encouraged here, one in which the students are meant to "develop his/her own mental set of strategies for dealing with tasks" (Widodo, 2006: 128), on the one hand, but also one which reflects studies on learner preferences, who tend to "favor a deductive approach, where they are provided the rules" (Larsen-Freeman, 2015: 268). In the didactic unit, students direct their attention to structures when they are doing the activities; in other words, they are guided towards the grammar they have to use:
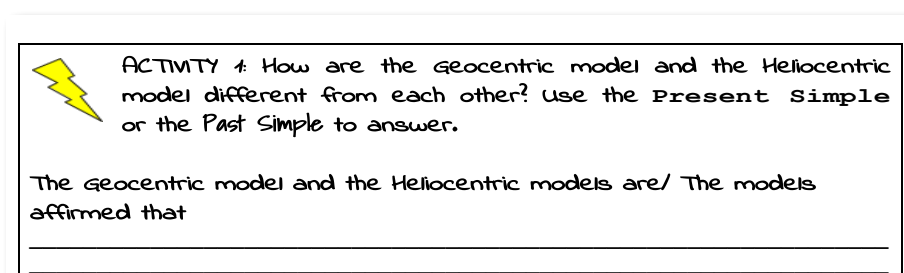
Figure 5. Example of activity integrating form and content

Consequently, <u>explicit grammar teaching</u> is needed for this proposal and conforming to my understanding of CLIL. It has been demonstrated that better grammar learning improves communicative fluency, with errors being tolerated as long as they do not impede communication. Following Cummins (2013), among others, I am of the opinion that students should have a proper command of the register of formal language to succeed in school – this, in turn, is supported by the notion of *CALP*. Besides, from my own experience with this level in CSE, I believe in the potentiality of explicit instruction, as students often feel they are walking on solid ground if they are given the rule beforehand – "incidental attention to language during content instruction is insufficient" (Martínez-

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[17] Of special relevance to the design of this didactic unit have been the constructs of *Content* (I have purposedly modified the language in the text for it to be meaningfully contextualised) and *Communication* in the 4Cs Framework; also, the language *of* learning in the Triptych (including not only scientific vocabulary, but also grammar)

Adrián & Gutiérrez-Mangado, 2015: 68-69). Students are explicitly provided with the rules that lie behind the use of the tenses they are supposed to acquire and consolidate. At the end of the unit, they have the language contents, with an explanation of the uses and forms included; as expected, the instruments of evaluation the teacher uses must necessarily contemplate grammatical accuracy, trying to give equal weight to language and content, although a perfect equilibrium is almost impossible – Griva remarked that "acquisition of content requires acquisition of the relevant form" (2017: 80). Here are two extracts:

❑ USE: we use the Past Simple in this unit to talk about...
- something that happened once in the past
- something that was true for some time in the past

Figure 6. Explicit grammar explanation: use

THE PRESENT SIMPLE
❑ STRUCTURE/FORM:
- AFFIRMATIVE: subject + verb [+(e)s with 'he/she/it'] + complements
    - The science that studies the origin and evolution of the universe is astronomy.
    - The planets orbit the Sun in an anticlockwise direction.
- NEGATIVE: subject + DO [I, you, we, you, they] / DOES [he, she, it] + INFINITIVE + complements
    - The Sun does not move and it is in the centre of the universe.
    - The Moon does not produce its own light.
- INTERROGATIVE: wh- word + DO [I, you, we, you, they] / DOES [he, she, it] + subject + INFINITIVE + complements?
    - What do we find in our galaxy?
    - How do we identify a star?

Figure 7. Explicit grammar explanation: form

Of course, to be coherent with the CLIL approach, students need to know the language objectives and the content objectives from the very beginning. These have to be clearly stated in the first session, and here I recommend two options: one possibility is that the DNL teacher specifies both, and another one is that this task is divided between the DNL teacher and the FL teacher, the latter being in charge of the language objectives. This collaboration is acknowledged to be paramount in CLIL, and accordingly, the second possibility would be the ideal one, although it is not always possible, as their teaching hours do not always coincide. In any case, I planned this didactic unit having teacher collaboration in mind at all times, and I do believe that we must take advantage of the opportunity of working and learning from other colleagues, as it has been my case – Lyster (2013) pointed out the importance of the connection between the CLIL class and the FL
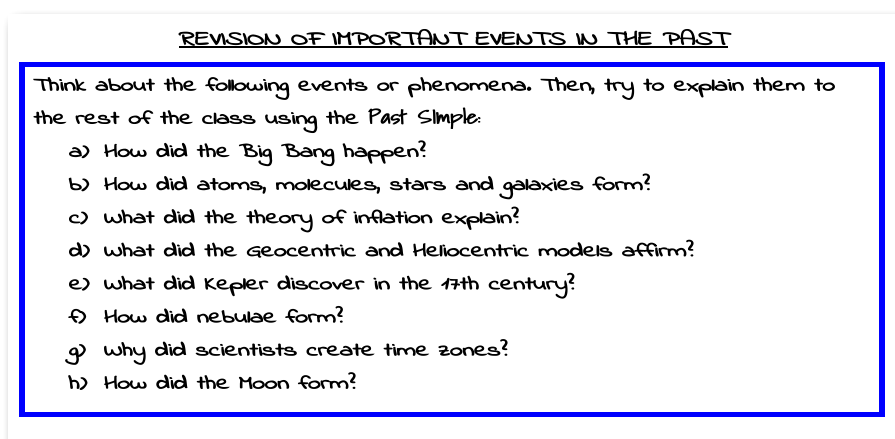
class. Thus, the FL teacher can come to class in three different sessions for about twenty minutes:

- At the beginning, to present the language structures and patterns, using the language contents that students have at the end of the unit, with examples taken from the texts they will encounter. Here, the teacher will offer an explicit presentation of the use and the form of the tenses in question, and will solve the doubts students may have – most likely, not many, as they have already studied the present simple and the past simple in Primary Education.

- In the middle, before the DNL teacher begins section four, "The Earth's movements", as the past simple is again introduced here. Here, the FL teacher would review both tenses again and check whether students have hav any problems using the present simple.

- At the end of the unit, before they start the sections "Revision of facts" and "Revision of important events in the past", so that potential problems are anticipated, given that learner autonomy is very much encouraged in this final part of the unit. Here is an extract of the latter:

Figure 8. Revision activity integrating form and content

Apart from the FL teacher coming inside the CLIL classroom, one must not forget that, whenever doubts arise as content is explained, once the FL teacher is not present, it is the teacher of the discipline the one who leads the lesson, and it is his job to offer guidance in the understanding and use of the linguistic aspects of content. This means that, if necessary, the teacher would stop the class and repeat what is not clear as regards form or use, something which is very rarely done in the bilingual programmes in Spain. At this point, feedback is very useful, either by means of explicit corrections, recasts, repetitions, or even using translation into Spanish, a valuable alternative which is often rated too low.

Another characteristic of proper teaching in CLIL and that I would like to include in the exploitation of this didactic unit following Costa & D'Angelo (2011), is that the DNL teacher introduces the lesson in <u>the L1</u>, Spanish in this case, and then continues in the foreign language. A good beginning would be to state the content objectives in the first session first in Spanish and then in English. The same can be done by the FL teacher when grammar is explicitly taught, as it has been shown that the contribution of the L1 aids the learning process and a key feature of CLIL, as Marsh et al. affirm, is to show the "inter-relationships which exist between the first and the additional language" (2001: 37); the use of both languages in grammar explanations is also reinforced by Nunan (2001), who is convinced that establishing a comparison between the two linguistic systems is a good predictor of the difficulties that students will encounter when learning a foreign language. One cannot forget the fact that "all the learner's languages, including their L1" (Anderson et al., 2015: 145) must be present in good CLIL sessions. This is paramount, and it is a pity and a mistake when some 'extremist' teachers discourage or even ban the use of the mother tongue, which tends to be very frustrating for students and I have noticed that it is detrimental in the long run. For this reason, in some activities, those that involve group discussion, students are allowed to use Spanish and to code-switch:
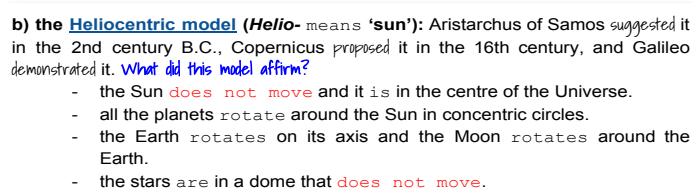
Figure 9. Example of activity allowing for code-switching

To complement explicit grammar teaching and be consistent, a <u>focus on form</u> throughout the didactic unit: one of the goals with this model is to show whether more attention to form is possible or not in the classroom. In an attempt to adopt Lyster's (2007) 'counterbalanced instruction', the aim is to integrate both content and form-focused instruction, attending to both in a systematic way, trying to overcome experts' fear that students' narrow proficiency in the foreign language may "impair their understanding of content" (Jensen & Thøgersen, 2011: 21).

In this way, *form* (the formal linguistic features, that is, bringing grammar to the attention of students as part of communicative language practice) and *forms* (the deliberate teaching of grammar) are cleverly and suitably combined to maximise learning

opportunities. This is carried out by means of input enhancement and input flooding. The text has been purposely manipulated to include only the present simple tense and the past simple tense; each tense is presented in a different colour and a different font from beginning to end, something which in my experience also serves to attend to students' diversity, as it helps those with a lower command of the language. Also, both tenses are presented in their affirmative, negative and interrogative forms, so that learners become familiar with all the variants. In accordance with Lyster's FFI framework, as reviewed in this work, form is efficiently integrated with content instruction, and all the three steps in such framework are borne in mind: noticing, awareness-raising and production practice – this last stage is, as Zhu specifies, "planned, focused and systematic" (2016: 84) in the activities. Therefore, students are intentionally and explicitly paying attention to form throughout all the didactic unit:

Figure 10. Explicit attention to form in input

This explicit attention to form is enriched by the <u>typology of activities</u> offered, as they integrate both content and language, fulfilling the call for a dual focus, even if it is 90/10, as Marsh demanded, and being both along a continuum, as a primary goal is that <u>content and language</u> are learned simultaneously and in a balanced way. I must admit that I have not seen this association of content and language in the textbooks I studied for this work; they either give more importance to one or the other, but the activities were not well balanced in my opinion. The aim with the activities in this unit is twofold: to focus on form explicitly (in their wording) and not to forego content. In this way, learners assimilate the content studied but also practice the form; nevertheless, there is always the challenge of the perfect equilibrium. In the different sections, I have included key concepts underlined in bold type and in a different colour; these words are later on reviewed in a "Scientific Glossary" at the end of each section. Here, students are also told which tense to use to define them:
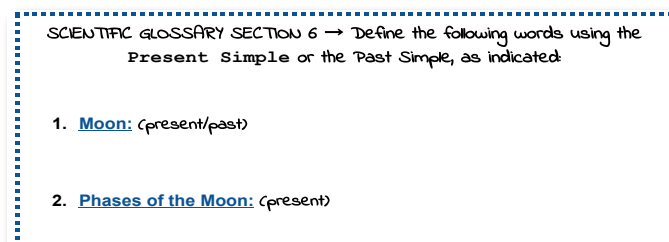
Figure 11. Extract of Scientific Glossary

To round off the unit and stress the dual focus, at the end of each section I have included a "Consolidation of Content and Language" part with these precise instructions:
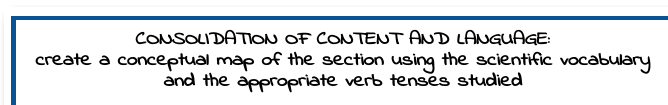

Figure 12. Consolidation activity

Likewise, the activities are presented and recycled in such a way that they increasingly promote <u>learner autonomy</u> and I have no doubt that they integrate form/accuracy and communication/fluency. In addition, <u>skills</u> are also very well integrated and the four of them are given its own importance, which is also paramount in CLIL. Needless to say, the different learner styles are also taken into account in them from my personal experience. These features are not always considered in the textbooks I have scrutinized, so I have made a humble attempt at improving this. The chart below summarises the typology proposed and other relevant aspects to consider, but all of them integrate content and language:

TYPOLOGY	SKILLS DEVELOPMENT	RATIONALE/CLIL GROUNDWORK
"Watch the video…" (1.1.1, 3.1, 4.2, 5.2, 6)[18]	- Oral comprehension - Written production	Better assimilation of content; enriched input; attractive for students; familiar resource to them; cultural dimension of learning.
"Activities" (1, 2, 3, 7, 8, 9,	- Written comprehension	Assimilation of both form

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[18] All the videos are taken from the YouTube cannel "Kurzgesagt – In a nutshell" (https://www.youtube.com/user/Kurzgesagt/about). In their own words, they are "a small team who want to make science look beautiful". I actually use their videos in class to complement reading comprehension or whwnever students are curious about something, and they love them. Therefore, they are a useful resource for DNL teachers, because they are funny, attractive for students and instructive.

10, 11)	- Written production	and content; content-intrinsic and practice of formal linguistic features.
"Discuss with your group" (activities 4, 5, 6, 12, 13, 14)	- Oral comprehension - Oral production - Written comprehension - Written production	Collaborative work; learner autonomy; peer-scaffolding; rich interaction; systematic language work; production practice; strategic L1 use and code-switching if necessary (sustainable learning).
"Draw and explain to the class" (1.2, 2.3, 6.2)	- Oral comprehension - Oral production - Written comprehension - Written production	Learner autonomy; content and language assimilation; systematic language work; pushed output; meaningful communication.
"Scientific glossary"	- Written comprehension - Written production	Assimilation of both form and content; content-intrinsic and practice of formal linguistic features.
"Consolidation of content and language"	- Written comprehension - Written production	Learner autonomy; scaffolding learning (efficient learning); assimilation of both content and language
"Revision of important facts" and "revision of important events in the past"	- Oral comprehension - Oral production - Written comprehension - Written production	Rich interaction; pushed output; systematic language work; consolidation of both content and language; teacher- and peer-scaffolding; learner autonomy.

Table 3. Typology of activities

Having explained how the didactic unit is approached and why it has been done in such a way, to conclude, I present below an example of the planning of a section ("The Universe") for teachers, incorporating my experience as an English teacher with both 'bilingual' and 'non-bilingual' groups, as well as my own views from what I have studied about CLIL. For clarity's sake, some methodological issues are further explained.

SESSION 1 (55')		
SECTION 1: "THE UNIVERSE"		
TIMING	**WHAT?**	**NOTES ON METHODOLOGY**
10'	- Content objectives and language	- Ideally, the DNL teacher explains the content objectives and the FL teacher

	objectives explanation - Go through the subsections and check their previous knowledge on the topic	explains the language objectives
5'	- Text-skimming (1 to 1.1.1)	- Students alone read the text quickly - The DNL teacher asks them to notice the different fonts and colours in the text
10'	- Explicit grammar teaching: Present Simple and Past Simple	- (Ideally) by FL teacher. - Using the notes provided in the didactic unit, students write down possible doubts - To finish, the teacher asks students to check comprehension (i.e. *What are we going to use the Present/Past Simple for in this unit?*)
10'	- Content explanation (1 to 1.1.1)	- Students just listen and write down possible doubts, which will be answered in turns at the end (by other peers preferably; if not, by the DNL teacher)
10'	- Copy questions included in the video - Watch the video "The beginning of everything: the Big Bang" - Answer questions included in the video	- Teacher explicitly says that they have to answer using the Present and Past Simple - Better done in pairs or small groups (four maximum) - (Ideally) peer-correction among groups and DNL teacher mediates
10'	- Text-skimming (1.1.2 to 1.4.1)	- Students alone read the text quickly - The DNL teacher asks them again to notice the different fonts and colours in the text
Home:	- Scientific Glossary: "Astronomy" and "Big Bang" - "Consolidation of content and language" (page 9): only until 1.1.1[19] - Review uses and form of the Present Simple and the Past Simple	

Table 4. Session 1

SESSION 2 (55') SECTION 1: "THE UNIVERSE"		
TIMING	**WHAT?**	**NOTES ON METHODOLOGY**
5'	- Check homework: Scientific Glossary	- Volunteers - Peer-correction; if not, by the DNL teacher

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[19] The sections "Consolidation of content and language" and the "Scientific Glossary" are perfect for homework, as well as skimming the next section in the content

5'	- Revision of content (1 to 1.1.1)	- Volunteers
		- The DNL teacher asks them to use the Present Simple and the Past Simple
5'	- Grammar review [20]	- Question and answer routine
		- DNL answers possible doubts
15'	- Content explanation (1.1.2 to 1.4.1)	- Students just listen and write down possible doubts, which will be answered in turns at the end (by other peers preferably; if not, by the DNL teacher)
15'	- Activities 1, 2 and 3 [21]	- Teacher explicitly says that they have to answer using the Present and Past Simple
		- Better done in pairs or small groups (four maximum)
		- (Ideally) peer-correction among groups and DNL teacher mediates
10'	- Finish Scientific Glossary, or	- Glossary better done in pairs or small groups
	- Text-skimming (section 2) [22]	
Home:	- "Draw and explain to the class" (page 4)	
	- "Consolidation of content and language" (page 9): only until 1.4.1	
	- Review uses and form of the Present Simple and the Past Simple	

Table 5. Session 2

The last part of the didactic unit ("Revision of facts" and "Revision of important events in the past") can be done in class and it is also intended as an instrument of evaluation for future use. In class, this section can be exploited in many ways, but always bearing in mind the double focus on content and language, that is, it is paramount that the teacher ensures that both types of objectives are dealt with. It is also advisable - if not imperant – that scaffolding, L1 use and peer-correction are used. On the other hand, it may well serve to evaluate the content and linguistic objectives of the didactic unit.

Overall, it may be reminded that this is a mere proposal of session planning and methodolody, but I sincerely have no doubt that it is very well designed and faithful to the CLIL approach. The unit is flexible and can be easily adapted to fulfil both teachers' and students' demands, in terms of both content and language. At any rate, DNL teachers are

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[20] Revision of content and grammar review must be present at the beginning of each session, to pay equal attention to both content and language, as the CLIL approach demands

[21] Activities are better done in class, so that they combine content and language and it is easier then for the DNL teacher to anticipate potential problems than if they are done at home

[22] It is convenient that the teacher always allows for some improvisation in class; it is also a good idea to give students the opportunity of choosing what they feel like doing. For this purpose, the "Scientific Glossary" and the skimming of the next section are appropiate for the end of the session

here presented with an example in which all aspects of CLIL have been considered to some extent; departing from it, it is not difficult to sequence the subject and linguistic contents in their curriculum.

As I said, it is time-consuming and units are planned for a minimum of ten sessions, but it is certainly worth the effort; if we are to work with CLIL and be coherent – and more importantly, for its positive impact on students – we have to take the necessary steps, recycle and reuse content and language, be sensitive to students' needs, and not to hurry. In closing, this didactic unit is thoroughly designed, structured and sequenced following my personal teacher beliefs and my interpretations of the bibliography researched, and I wish it were useful not only for my fellow workers, but more importantly, for foreign-language students.

8   CONCLUSIONS

It seems appropriate, then, to finish with an attempt to answer the research questions that were posed in the introduction of this study, without ignoring the fact that since there is still so much controversy, more research is needed to give a definite response to them. We cannot answer the questions before acknowledging the modesty of this study and its possible shortcomings. Notwithstanding, with the help of the literature collected, being this carefully analysed and compared, and with the practical example I have offered, some final conclusions can be stated. Understandably, these conclusions are as solid as they can be for a theoretical-descriptive study.

The first question was "*What is the place of grammar in CLIL contexts?*". According to the theories and researchers revisited, we are in a position to affirm that it remains unanswered for the most part. Historically, views of grammar teaching have swung from the overtly explicit methodologies to the clearly implicit ones; that is, the majority of researchers and practitioners have positioned themselves in one extreme or the other. Nevertheless, in the face of this uncertainty regarding the teaching and learning of grammar in the CLIL classroom, some issues are worth reminding.

As we have illustrated in the study, a growing body of research has approached the value of teaching grammar explicitly, and the results seem to indicate that one cannot disregard the tremendous role played by explicit knowledge, learning and teaching in the improvement of both communicative competence and foreign-language proficiency. Sharwood Smith's interface hypothesis is paramount in this respect. More importantly, we cannot ignore the fact that in this age of communication, learners' ability to be effective

conveyors of information is imperative. If, as it is claimed, the acquisition of a foreign language is associated with the development of implicit knowledge, it is not a coincidence that most studies and authors agree (a fine example is Scheffler & Cinciala, 2010) that the explicit teaching of L2 grammar can certainly help acquisition. Besides, if we recall the characteristic of explicit teaching, as listed by Criado et al. (2010), there is no doubt that it is beneficial for students. If we do recognise that the essence of instruction is to provide the student with the widest of opportunities to broaden his linguistic horizons, a matter of particular concern to the instructor is how the array of options examined can be best combined so that the teaching and learning of grammar is productive. However, if we allow ourselves the luxury of choosing one approach above the other, in view of the arguments here presented and for the purpose of this study, the preference here is for a deductive one, as it is needed in the classroom to justify the inclusion of explicit grammar teaching in CLIL.

Together with this, it is also acknowledged that more longitudinal studies are needed to successfully evaluate the potential beneficial outcomes of CLIL in terms of grammar; besides, Pérez-Cañado (2016) points to a number of *red flags* that have to be addressed in future research. The place of grammar in CLIL also depends on the methodology employed and teachers' idiosyncrasies, and experts are mainly preoccupied with two concerns. Firstly, the discrepancies in CLIL implementation; there is not a single and strict methodology to follow, and this apparent richness and advantage may actually be one of its main weaknesses. And secondly, there is the danger of putting language aside, and by extension grammar. I need hardly say that a focus on form and explicit grammar instruction is needed to put content and language in balance, as I have tried to demonstrate and illustrate with my didactic unit. Focus on form results in very effective learning, fostering both linguistic and communicative competence, that is to say, accuracy and fluency. Besides, and this is fundamental, it is also learner-centred, as Nassaji & Fotos (2004) have claimed.

Apart from this, if we look towards the future with the hope of a teaching and learning environment in which the student is active and enjoys the language, the focus should be not only on learning grammatical rules, but also on communicating fluently, and here is where CLIL comes to play with its twofold objective: the practice of form and communication. The time may have come for a combination of methodologies that puts together, in so far as possible, all the dichotomies here exposed, and I am sure that CLIL has still a lot to offer. If theories and approaches continue to battle with each other, we

cannot expect major changes in the future, and this will be at the expense of learners, of course. As a conclusion, within theoretical dissensions surrounding grammar in CLIL, an approach which does not make an effort to give equal importance to language and content is not worth calling itself CLIL.

The second of the research questions concerned the extent to which *good* CLIL is possible in a didactic unit: *"Can a didactic unit incorporate CLIL and focus on both content and language accordingly?"*. I have tried to illustrate that it is, indeed; and not only this, given the many possibilities available with CLIL (used sensibly), a single didactic unit can be exploited in many ways. There are, however, some *red lines* that cannot be crossed, and these have been conscientiously kept in mind in the unit illustrated here and have all been regarded: every unit should be based on three aspects, focus on meaning, focus on form and focus on forms; a combination of elements is paramount, namely, teacher collaboration, L1 use, content and language balance, and attention to form; a solid pedagogical and methodological base for effectiveness is the 4Cs Framework, together with the Language Triptych; every unit must consider content objectives and language objectives – the latter are very often undervalued or even not consider at all, according to my experience; proper methodologies for successful implementation in every unit are language-supportive; skills are regarded in an integrated way; and grammar can be exploited following the FFI framework, as devised by Lyster, with noticing, awareness-raising and production practice.

I have tried to make clear with the didactic unit designed that it is certainly possible to teach grammar without overlooking content. It is a common uneasiness among parents, as far as I have noticed in the school communities where I have worked, that if their children are enrolled in a bilingual programme, they will not acquire the contents in the curriculum as well as their non-bilingual counterparts. Moreover, it is also a widespread fallacy that bilingual programmes in our country only consist in teaching lists of vocabulary; and sadly, I have also come to realise that some teachers are anxious when teaching in bilingual programmes for fear that they might not do their job well. Well, this study aims at turning the tables.

As for the parents' concerns, or the students themselves, it has been my aim to show that content and language are equally valuable in the CLIL classroom. It is true, though, that to design materials is a laborious task and teachers lack the time or the knowledge to achieve this. As I vindicate, teachers have to be properly trained and provided with the necessary tools or else the successful implementation of CLIL will rely upon the

generosity and willingness of a few. The texts and activities included in this unit are not the work of a day, but of weeks. They are planned and structured in a way that they all put together content and language, trying to be as faithful as possible to the approach and thinking very carefully on the best way to help students and foster not only their grammatical knowledge, but also their content knowledge. I was able to do this because I am well-versed in the topic, but not because I have been trained in my job. I then urge authorities to reconsider this and invest more in teacher training, as it is done in other neigbouring countries.

With regard to the misconception of those who think that bilingual programmes are reduced to teaching vocabulary lists, let us prove them wrong; let us not be afraid of being all language teachers whenever the chance arises, as CLIL requires. If we think about it, it is just wise that we work in a way that we can learn from each other; in this sense, this didactic unit is not a panacea, but a sensible starting point. Thus, I am convinced that the answer to my second research question is 'yes, of course'.

I hope that that both future learners and teachers will find this review useful and that the enormous potential of CLIL for the teaching and learning of grammar in the classroom is positively valued. I encourage the teaching community to maximise its benefits and leave teaching ideologies aside. Our teachers are the first ones who need to become aware that a paradigm shift is required; only then would they have the authority required to properly inspire and get the most out of each and every student.

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10 APPENDIX A: MATERIAL FOR THE DIDACTIC UNIT

THE EARTH AND THE UNIVERSE

1. THE UNIVERSE

Humans `wonder` about the composition and origin of the Universe. The science that `studies` the origin and evolution of the Universe `is` **astronomy**. We can `define` the Universe or Cosmos as everything that `exists`.

1.1. The origin of the Universe

How do we explain the origin of the Universe? Astronomers *suggested* different hypotheses to explain the origin of the Universe. Today, the prevalent theory `is` the Big Bang theory.
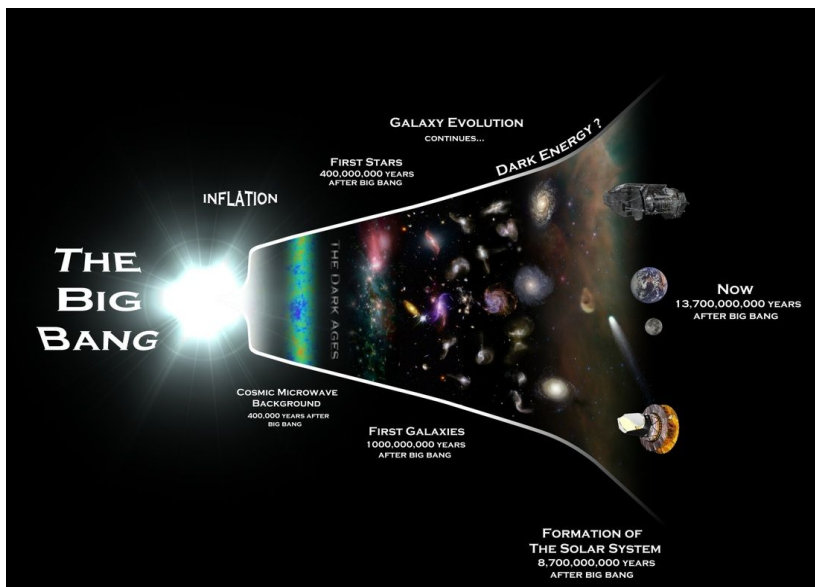
→ Big Bang Theory

1.1.1. The Big Bang theory

How did the Big Bang occur? According to the **Big Bang** theory, before the Universe *originated*, all matter *concentrated* in one point. The temperature in this point *was* extremely high because *there was* so much matter and energy accumulated.

As a consequence, *there was* a huge explosion 13700 million years ago; this `is` the origin of everything that `exists`. Matter *freed* in all directions. Then, the expansion

of the Universe did not occur slowly, but very quickly, in less than a second. The expansion of the Universe continues, but it expands more slowly now. And how did atoms, molecules, stars and galaxies form?

When the Universe expanded, the first atoms formed: hydrogen and helium. The first molecules also formed; these molecules were mainly gaseous.

Matter and energy grouped together in some areas of the Universe. This is how the first stars formed. The stars joined to form galaxies and the other bodies in the Universe.

watch the video and answer these questions using the Present Simple or the Past Simple in your notebook:
→ "The beginning of everything: the Big Bang":
https://www.youtube.com/watch?v=wNDGgL73ihY

1. what happened in 1964?
2. How did hydrogen form?
3. what is the "Dark Age"?
4. why do they say that "we are not separate from the universe?"

1.1.2. The theory of inflation

What does this theory explain? The modern theory of **inflation** explains what happened in the first moments after the Big Bang. It studies what occurred one second after the explosion.

Time 0: Big Bang → there was a giant explosion. Particles were born and a lot of energy freed.

The first second → after inflation, the Universe expanded rapidly. This expansion caused cooling and created the particles that compose atoms: electrons, protons and neutrons.

1.2. The position of the Earth in the Universe

There are different models to explain the position of the Earth in the Universe. The two main models are:

a) the **Geocentric model** (*Geo-* means 'earth'): Aristotle suggested in the 4th century B.C. and Ptolemy formalised it in the 2nd century B.C. This model disappeared in the 16th century. What did this model affirm?
- the Earth is spherical and it is the centre of the Universe.
- the Sun, the Moon and the planets rotate in concentric circles around the Earth.
- the stars also rotate around the Earth.

b) the <u>Heliocentric model</u> (*Helio-* means **'sun'**): Aristarchus of Samos suggested it in the 2nd century B.C., Copernicus proposed it in the 16th century, and Galileo demonstrated it. What did this model affirm?

- the Sun does not move and it is in the centre of the Universe.
- all the planets rotate around the Sun in concentric circles.
- the Earth rotates on its axis and the Moon rotates around the Earth.
- the stars are in a dome that does not move.

In the 17th century, scientists, like Johannes Kepler, discovered that the stars are not fixed. They also discovered that the orbits of the planets are elliptical.

geocentric
system

heliocentric
system
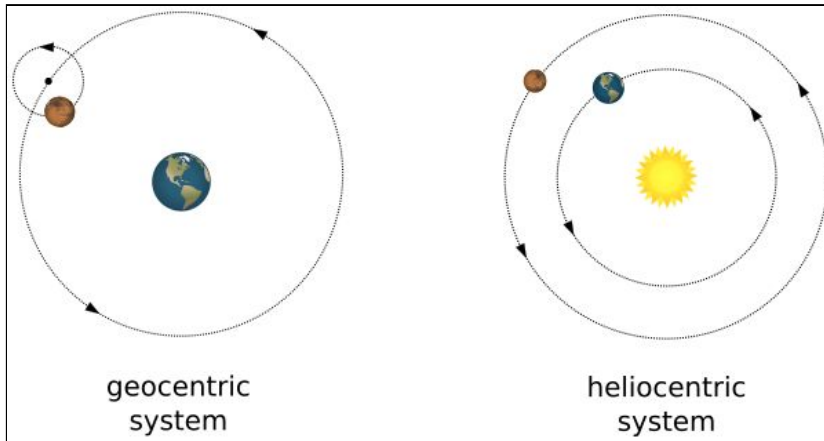
→ Two models

ACTIVITY 1: How are the Geocentric model and the Heliocentric model different from each other? Use the **Present Simple** or the Past Simple to answer.

The Geocentric model and the Heliocentric models are/ The models affirmed that

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

1.3. Distances in the Universe

How do we measure distances in the Universe? To measure the distances between galaxies, we use different units of measurement. These units are the light year and the parsec. To measure shorter distances, we use astronomical units.

1.3.1. Light year

A **light year** is the distance that light travels in one year. Light travels at a speed of 300 000 km per second. The first thing to do is to calculate how many seconds there are in a year. A year has 365 days. We make the following calculations:

<div align="center">

1 year = 365 days

365 days x 24 hours = 8 760 hours/year

8 760 hours x 3 600 seconds/hour = 31 536 000 seconds/year

</div>

After this, we have to multiply these seconds/year by light speed:

31 536 000 seconds/year x 300 000 km/second = 9 460 800 000 000 km

What does this mean? This means that in one second, light travels approximately 9.5 billion kilometres.

1.3.2. Parsec (pc)

A **parsec** `is` equivalent to 3.26 light years. We `use` it to measure very big interstellar distances. For example, the closest star to the Solar System `is` Proxima Centauri, which `is` 1.31 parsecs, or 4.28 light years away.

1.3.3. Astronomical unit (AU)

An **astronomical unit** `is` the distance between the Earth and the Sun. It `is` approximately 150 000 000 km.

The light we `see` from the stars `is` the light they *produced* in the past, because the distance between the stars and the planets in our Solar System `is` enormous. This `is` the same for the stars that `do not exist` any more. The same `occurs` with light from the Sun.

We `know` that Earth `is` 1AU from the Sun. We also `know` that light `travels` at 300 000 km/second. In this way:

150 000 000km ÷ 300 000 km/second = 500 seconds = 8.33 minutes

`What does this mean?` This `means` that the light from the Sun `takes` a little more than 8 minutes to arrive to our planet.
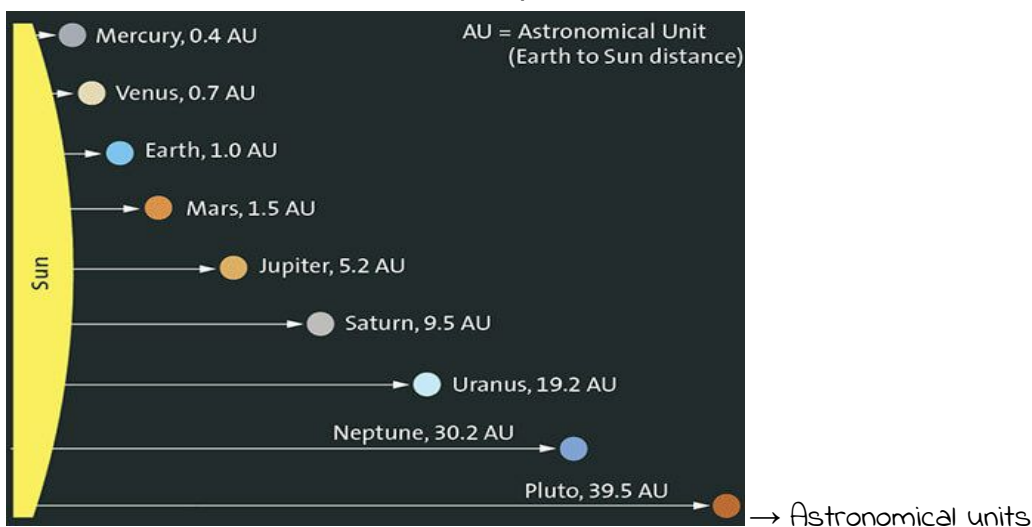
Mercury, 0.4 AU
AU = Astronomical Unit
(Earth to Sun distance)
Venus, 0.7 AU
Earth, 1.0 AU
Mars, 1.5 AU
Sun
Jupiter, 5.2 AU
Saturn, 9.5 AU
Uranus, 19.2 AU
Neptune, 30.2 AU
Pluto, 39.5 AU
→ Astronomical units

1.4. Composition of the Universe: galaxies

What do we find in the Universe? The Universe `is` immense and we only `know` a very small part of it. In the Universe `there are` innumerable galaxies. A **galaxy** `is` a huge group of stars, nebulae and interstellar dust and gas. The force of gravity `puts` them together.

Galaxies `have` different shapes. Spiral galaxies `are` the most common. Galaxies `group` together to form **clusters**. These clusters can be of hundreds or thousands of galaxies.
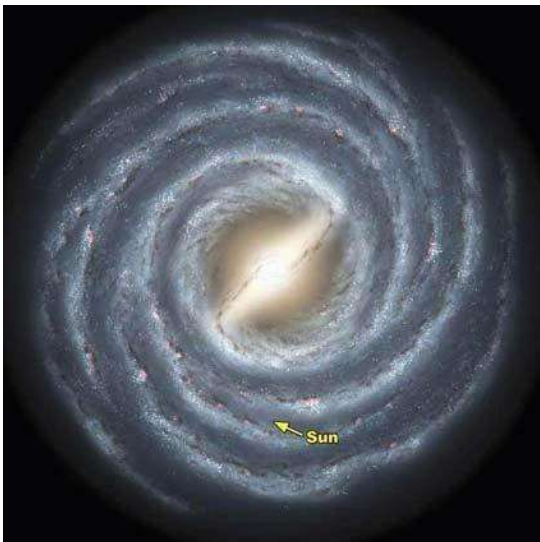
→ Spiral galaxy and a perspective of the Sun

1.4.1. Nebulae

Nebulae `are` huge clouds of gas (concentrations of hydrogen, helium and interstellar dust). Nebulae `do not contain` stars, but maybe they `come` from old stars that *exploded*. Stars `are born` in some nebulae from the concentration of gases and an increase in temperature. For this reason, nebulae and clusters of stars `are` frequently together.

ACTIVITY 3: what are the differences between a galaxy and a nebula? Use the **Present Simple** to answer. You can also include the Past Simple at some points.

The main differences between a galaxy and a nebula are/ Nebulae formed when

_____
_____
_____
_____
_____
_____
_____
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_____
_____

SCIENTIFIC GLOSSARY SECTION 1 → Define the following words using the
Present Simple or the Past Simple, as indicated:

1. **Astronomy:** (present)

2. **Big Bang:** (past)

3. **Geocentric model:** (present/past)

4. **Heliocentric model:** (present/past)

5. **Light year:** (present)

6. **Parsec:** (present)

7. **Astronomical unit:** (present)

8. **Galaxy:** (present/past)

9. **Clusters:** (present)

10. **Nebulae:** (present/past)

CONSOLIDATION OF CONTENT AND LANGUAGE:
create a conceptual map of the section using the scientific vocabulary
and the appropriate verb tenses studied

2. OUR GALAXY

In the Universe, stars, nebulae and planets `group` together in galaxies. The Earth `is` only one of the millions of celestial bodies in our galaxy, the Milky Way.

2.1. The Milky Way

The **Milky Way** `is` a spiral galaxy in a galaxy cluster, the Local Group. Other galaxies in this galaxy cluster `are` the Andromeda Galaxy and the Magellanic Clouds. The name of our galaxy `comes` from its white colour. Another name for our galaxy `is` El Camino de Santiago.

`What do we find in our galaxy?` There `are` millions of stars in the Milky Way and it `has got` four arms. The Solar System `is` in the Orion Arm. The galaxy `has got` three main parts:

1. Halo: this `surrounds` the core and the disk; it `contains` isolated stars.
2. Disk: it `has got` four arms; it `contains` the youngest stars.
3. Nucleus or Bulge: this `is` the centre of the galaxy; it `contains` the oldest stars.
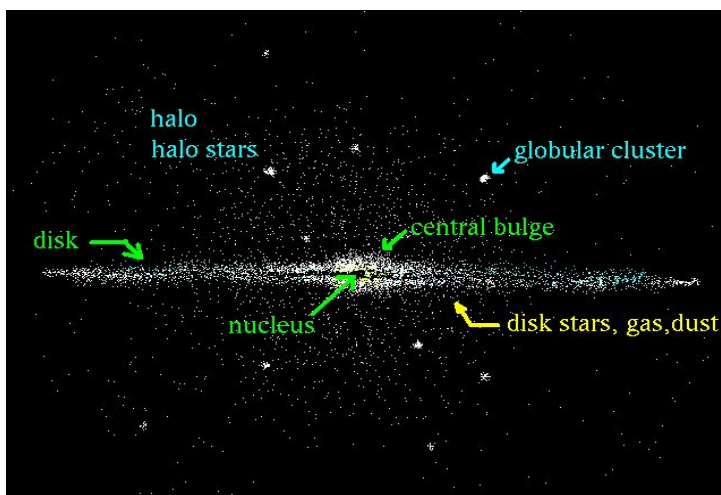
→ Structure of a galaxy

2.2. The night sky: the constellations

What do we see at night? All the stars in the night sky `belong` to the Milky Way. They `are` the part of the Milky Way that we `see` from Earth. Each star `is` a different distance from Earth, but this `is` difficult to observe. Stars `appear` to be close to each other, but in reality, they `are` far away from each other. The stars in the Milky Way `are` grouped in different imaginary shapes. These shapes `are` the **constellations**. From the Northern Hemisphere we can only `observe` 37 of the 88 constellations.

→ Constellations in the night sky

2.3. Stars

A **star** `is` a large sphere of gas that `contains` hydrogen and helium. Stars `free` energy in the form of light and heat. A nuclear fusion `occurs` when `there is` a nuclear reaction inside stars. **How do we identify a star?**

- The temperature in the exterior of the star `determines` its colour. The star `changes` its colour because it `consumes` the hydrogen it `contains`. When the hydrogen `finishes`, the star `dies`.
- The size of the Sun `determines` the size of a star:
    - Giants: stars that `are` bigger than the Sun
    - Medium-sized: stars that `are` the same size of the Sun
    - Dwarfs: stars that `are` smaller than the Sun
- The brightness of a star `varies` because of far it is, the energy it `frees` and its size.

→ A shooting star

How do stars group? Stars `form` groups called **star clusters**. `There are` two types of clusters: globular (very dense) and open (with separated stars). Some stars `attract` other bodies and `form` a planetary system, for example, our Solar System.
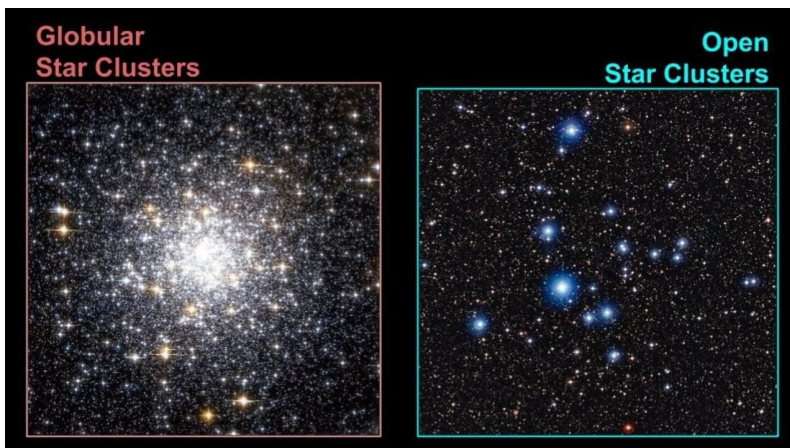
→ Star clusters

ACTIVITY 5: DISCUSS WITH YOUR GROUP → which star is brighter: a dwarf or a giant star? Use the `Present Simple` to discuss and explain your answer. write down your ideas first. You can use Spanish to discuss if it helps.

I think that /In my opinion,

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DRAW AND EXPLAIN TO THE CLASS → Find out about the constellations that there are this month in the sky in your area. Draw one of them, including its main stars.

SCIENTIFIC GLOSSARY SECTION 2 → Define the following words using the
Present Simple:

1. **Milky Way:**

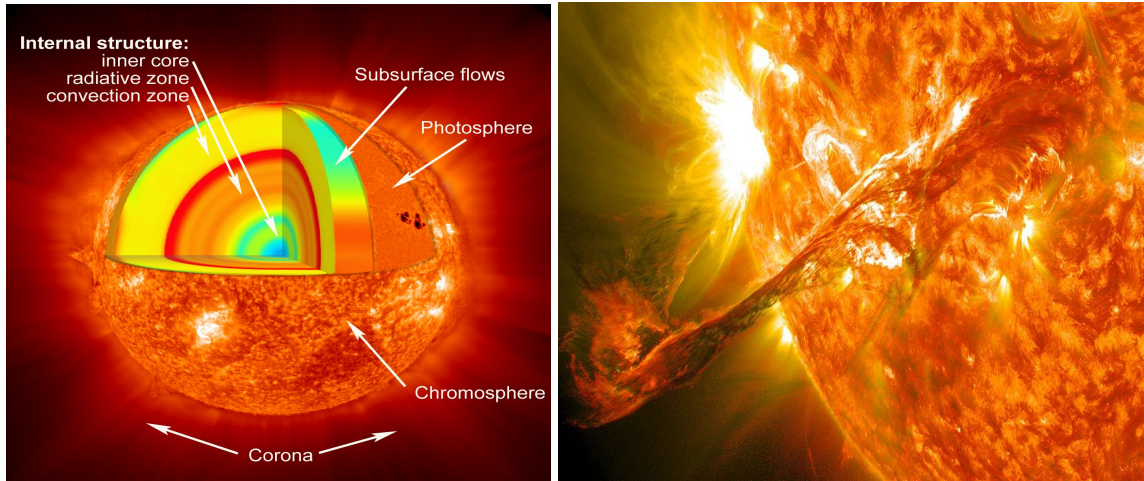2. **Constellation:**

3. **Star:**

4. **Star cluster:**

CONSOLIDATION OF CONTENT AND LANGUAGE:
create a conceptual map of the section using the scientific vocabulary
and the appropriate verb tense studied

3. THE SOLAR SYSTEM

The **Solar System** `consists` of the Sun and the celestial bodies that `orbit` it.

3.1. The Sun

The **Sun** `is` 4 600 million years ago. It `is` approximately 40 000 light years from the nucleus of the Milky Way. It `is` a medium-sized yellow star and the temperature in its exterior `is` of 5 500ºC. It `consists` of hydrogen and helium; `there are` other elements, like oxygen, carbon and iron.

`How does the Sun move?` The Sun `rotates` on its axis in an anticlockwise direction. One rotation `takes` approximately 28 days. The mass of the Sun `is` 2 x 1 030 kg; this `is` more or less 99% of the total mass of the Solar System. The material that `constitutes` the Sun `consists` of different layers:

- The interior layers `contain` the heaviest materials. In the core, the central layer of the Sun, `there are` nuclear reactions that `generate` energy.
- The exterior layers `contain` the lightest materials. The **photosphere** `is` the most external layer and we `see` it from Earth. The photosphere `frees` energy in the form of light and heat.

watch the video and answer these questions using the Present Simple in your notebook:
→ "What happens if we bring the Sun to Earth?":
https://www.youtube.com/watch?v=JoIdO87Pprc

1. Why do they define the Sun as "a goo"?
2. How do we call the surface that produces the light we see from the Sun?
3. How many degrees do we find in the centre of the core of the Sun?
4. Why do they mention "climate change"?

3.2. The structure of the Solar System

What do we find in the Solar System? The Solar System `consists` of a number of celestial bodies that `rotate` around its star, the Sun. `There are` different celestial bodies, according to their size, composition and the orbit they follow:

1. **Dwarf planets**: rocky bodies that `move` around the Sun in orbits; in these orbits `there are` other bodies.
2. **Asteroid belt**: `consists` of irregular bodies that `orbit` the Sun between the orbits of Mars and Jupiter.
3. **Planets**: rocky bodies that `move` around the Sun alone in orbits. `There are`:
   a. Interior (rocky) planets: Mercury, Venus, Earth and Mars.
   b. Exterior (gaseous) planets: Jupiter, Saturn, Uranus and Neptune.
4. **Comets**: bodies that `consist` of ice, rock and dust; they `orbit` the Sun in distant orbits.
5. **Satellites**: rocky bodies that `orbit` planets.

→ The Asteroid Belt

3.3. The movements of the planets

All the bodies in the Universe `move` continuously. **How do the planets in our Solar System move?**

1. **Revolution**: it `is` the movement of the planets around the Sun. A year `is` the period of time that a planet `takes` to complete one revolution around the Sun.
   → The orbits of the planets `are` elliptical and are on the same plane, more or less. The planets `orbit` the Sun in an anticlockwise direction.
2. **Rotation**: it `is` the movement a body `makes` in its own axis. A day `is` the period of time that a planet `takes` to complete one rotation.

→ Planets `rotate` on a perpendicular axis to their orbital plane; the orbital plane `is` the plane on which a body `orbits`. Except for Venus and Uranus, the rotation of most planets `is` in an anticlockwise direction.
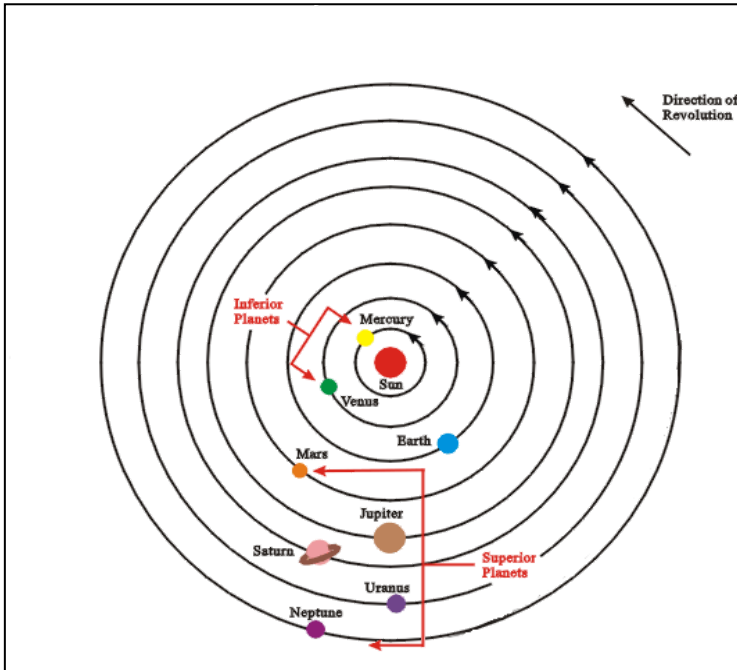
→ Apparent motion of planets

ACTIVITY 6: DISCUSS WITH YOUR GROUP → which planets take longer to orbit the Sun: the interior planets or the exterior planets? Use the **Present Simple** to discuss and explain your answer. write down your ideas first. You can use Spanish to discuss if it helps.

I think that /In my opinion,

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SCIENTIFIC GLOSSARY SECTION 3 → Define the following words using the
Present Simple:

1. **Solar System:**

2. **Sun:**

3. **Photosphere:**

4. **Dwarf planets:**

5. **Asteroid belt:**

6. **Planets:**

7. **Comets:**

8. **Satellites:**

9. **Revolution:**

10. **Rotation:**

CONSOLIDATION OF CONTENT AND LANGUAGE:
create a conceptual map of the section using the scientific vocabulary
and the appropriate verb tense studied

4. PLANETS IN THE SOLAR SYSTEM

The interior and the exterior planets `are` all different from each other: different distances from the Sun, different revolution and rotation periods, different size, and different number of satellites.
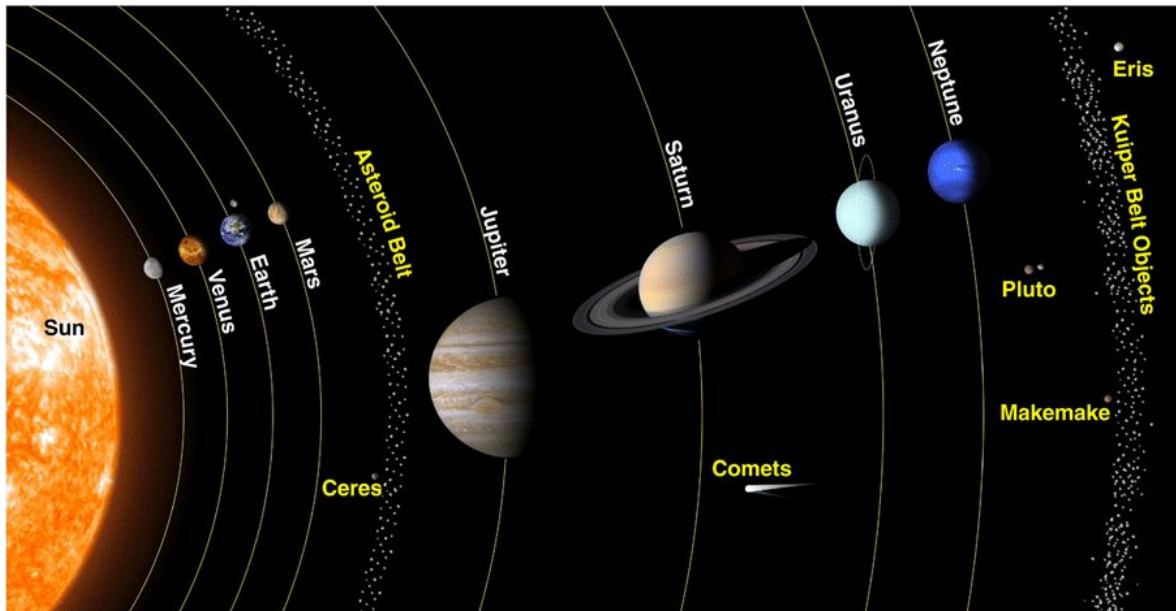
4.1. Interior planets

The **interior planets** `are` small, they `have` very little or no atmosphere and they `have` a rocky surface. The interior planets `are` Mercury, Venus, Earth, and Mars.
How do we distinguish the interior planets?

Mercury	1. It `is` the name of the messenger of the Roman gods. 2. It `has not got` atmosphere; because of this, its temperature `varies`. 3. It `does not contain` water. 4. It `has` 0.055 times the mass of Earth.
Venus	1. It `is` the name of the Roman goddess of love and beauty. 2. It `has got` a very dense atmosphere and it `generates` a greenhouse effect. 3. Maybe, it `contains` water vapour. 4. It `has` 0.815 times the mass of Earth.
Earth	1. It `is` the name of the Roman goddess of the Earth. 2. It `has got` greenhouse gases and it `has usually got` the same temperature. 3. It `is` the only planet in the Solar System where `there is`

	water and life. 4. It `has` a mass of 6 x 4^{24} kg.
Mars	1. It `is` the name of the Roman god of war. 2. In the past, its atmosphere ᴡᵃˢ more compact, but now it `is not`. 3. It `has got` ice. 4. It `has` 0.108 times the mass of Earth.

4.2. Exterior planets

The **exterior planets** `are` very large and they `have` a gaseous atmosphere. They `have` rings around them and their surface `is` in a gaseous or liquid state. The exterior planets `are` Jupiter, Saturn, Uranus, and Neptune. **How do we distinguish the exterior planets?**

Jupiter	1. It `is` the name of the most important Roman god. 2. Its atmosphere `has` cloud storms that `give` the planet its colours.. 3. It `has got` a ring of dust particles. 4. It `has` 317.9 times the mass of Earth.
Saturn	1. It `is` the name of the Roman god of agriculture. 2. Its atmosphere `contains` helium and methane and it `is` the least dense planet. 3. It `has got` rings of ice, rocks and dust. 4. It `has` 95.2 times the mass of Earth.
Uranus	1. It `is` the name of the Roman god of the sky. 2. Its atmosphere `contains` hydrogen and methane and it `has` a blue-green colour. 3. It `has` 11 rings. 4. It `has` 14.6 times the mass of Earth.
Neptune	1. It `is` the name of the Roman god of the sea. 2. Its atmosphere `contains` hydrogen, helium, water vapour and methane and it `has` a blue colour. 3. It `has` 4 thin rings. 4. It `has` 17.2 times the mass of Earth.

ACTIVITY 7: Try to explain which planet has more characteristics in common with Earth. Use the Present Simple to answer.

All the planets have got different characteristics, but

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watch the video and answer these questions using the Present Simple in your notebook:
→ "The Solar System: our home in space":
https://www.youtube.com/watch?v=KsF_hdjwvjo

1. Why does temperature vary so much in Mercury?
2. Does Venus have a moon?
3. How many moons does Mars have?
4. Why do they mention storms?
5. How many moons does Saturn have?
6. Which is the smallest "gas giant"?
7. How long is a Neptune year?
8. How do we call the two belts in the Solar System?

SCIENTIFIC GLOSSARY SECTION 4 → Define the following words using the Present Simple:

1. **Interior planets:**

2. **Exterior planets:**

CONSOLIDATION OF CONTENT AND LANGUAGE:
create a conceptual map of the section using the scientific vocabulary
and the appropriate verb tense studied

5. THE EARTH'S MOVEMENTS

The Earth `moves` around the Sun and it also `moves` around its own axis.
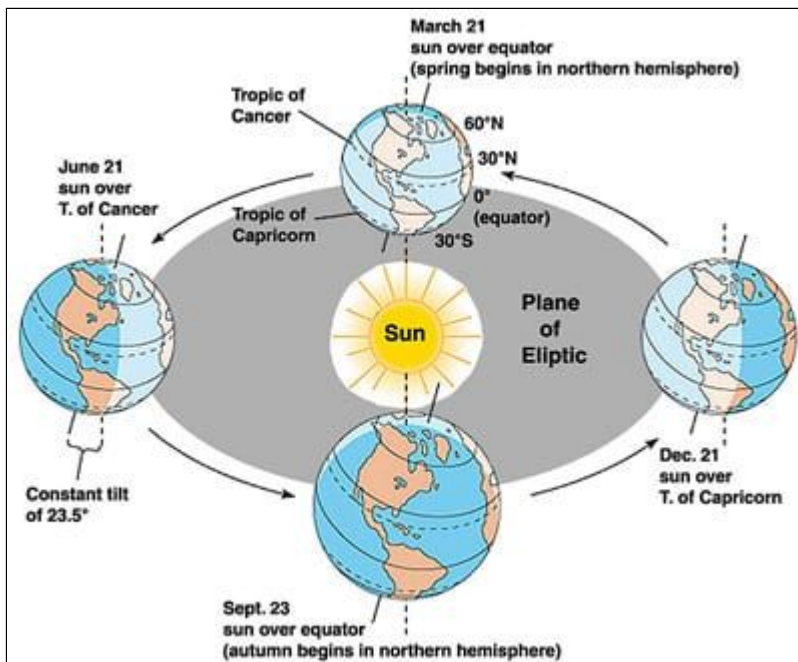
5.1. The Earth's revolution

`How does the Earth move?` The Earth `moves` around the Sun in an elliptical orbit. One **revolution** `consists` of 365 days, 5 hours and 49 minutes. A **leap year** `occurs` every 4 years in the month of February. This `happens` because the Earth `takes` a little more than 365 days to complete one revolution.

`Where do we find the Sun?` The Sun `is not` in the middle of the ellipse because the distance between the Earth and the Sun `varies`.

- The maximum distance of the Earth from the Sun `is` 152 million km. This `is` the summer in the Northern Hemisphere.
- The minimum distance of the Earth from the Sun `is` 147 million km. This `is` the winter.

The Earth's revolution `has` some characteristics that `permit` light and temperature conditions that `are` ideal for life. These `are` some of them:

- The Earth `has` an inclination of 23.5º perpendicular to the ecliptic plane. When the Earth `moves`, it `maintains` this inclination.
- The Earth `moves` around the Sun on the ecliptic plane.
- The Earth `is` more or less spherical and the Sun's rays `do not hit` all the parts of the planet at the same angle.


→ The Earth's movements

5.1.1. The Earth's seasons

The Earth's revolution `causes` the amount of intensity of sunlight that `hits` a part of the Earth. This intensity `varies` during the year. These variations `cause` the **seasons**. In the summer, the Sun's rays `hit` the Tropic of Cancer in the Northern Hemisphere and the Tropic of Capricorn in the Southern Hemisphere in a perpendicular way.

When and why do summer and winter occur? The Sun's rays `hit` the Northern Hemisphere directly and the Southern Hemisphere at an inclined angle. This `is` why when it `is` SUMMER in one hemisphere, it `is` WINTER in the other. In SPRING and summer, the Sun's rays `hit` the Equator in a perpendicular way.

The length of day and night `marks` the change from one season to the next. The first day of summer `is` the longest day of the year and the first night `is` the shortest. Winter `begins` with the longest night of the year.

The **solstices** `are` the days when the difference between the length of night and the length of day `is` the biggest. The **equinoxes** `happen` when the days and nights that `mark` the beginning of spring and AUTUMN `are` the same length; they `occur` when the Sun `is` directly above the Equator.
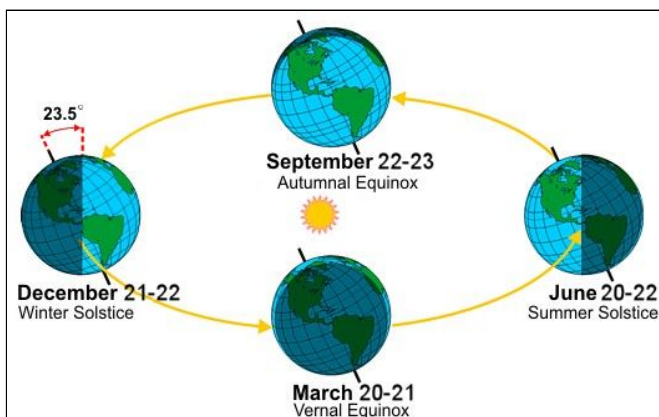
→ Solstices and equinoxes

5.2. The Earth's rotation

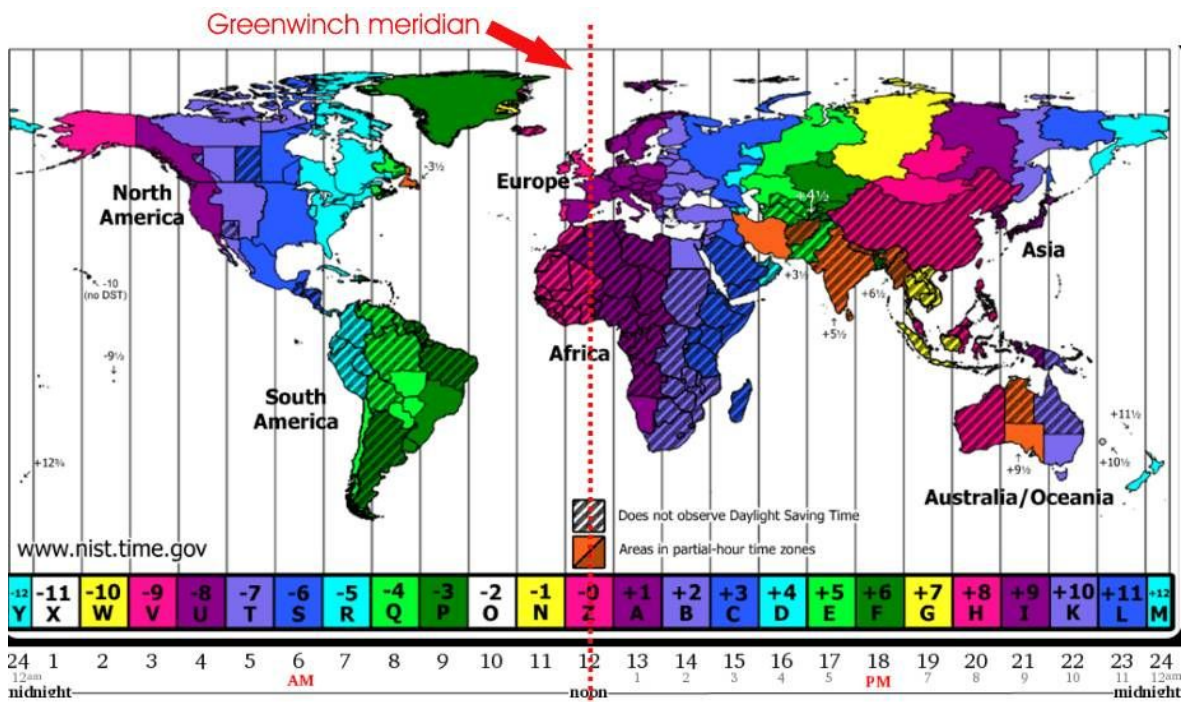The Earth `takes` 23 hours and 56 minutes to complete one **rotation**. Rotation `causes` day and night.

5.2.1. Time zones

The Earth `is` a sphere and this `is` why all the areas of the planet `do not receive` sunlight at the same time. The time of the day `varies` between continents, countries and cities.

What did scientists do to unify time zones? Time zones and meridians did not exist three centuries ago. To unify time, in the 19th century, scientifics divided the Earth into 24 meridians. A **meridian** `is` an imaginary line that `goes` from pole to pole in semicircles. A **time zone** `is` the area between two meridians.

All the cities and countries that belonged to the same time zone had the same time. Later, time zones changed and adjusted to the frontiers of countries or regions. This `is` why the borders of the time zones `are` very irregular.

The Greenwich Meridian (0º) `is` the starting point. When we `move` east, we `add` an hour for each time zone and when we `move` west, we `subtract` an hour. In the calendar, a day `starts` at 180º east meridian and it `ends` at 180º west meridian.

Greenwinch meridian

North America

Europe

Asia

Africa

South America

Australia/Oceania

Does not observe Daylight Saving Time

Areas in partial-hour time zones

www.nist.time.gov

| -12 Y | -11 X | -10 W | -9 V | -8 U | -7 T | -6 S | -5 R | -4 Q | -3 P | -2 O | -1 N | -0 Z | +1 A | +2 B | +3 C | +4 D | +5 E | +6 F | +7 G | +8 H | +9 I | +10 K | +11 L | +12 M |

| 24 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |

12am midnight — AM — noon — PM — midnight

ACTIVITY 10: a) where are there more hours of daylight in summer, in Spain or in England? and in winter? b) why do you think there was a need to create time zones? Use the **Present Simple** and the Past Simple to answer.

In summer, there are more hours of daylight in/ I think, in my opinion, scientists created time zones because

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5.2. The importance of the Earth's movements for living things

How does the Earth's movement affect living things? The movements of the Earth `cause` days, nights, seasons, and changes in temperature. Of course, living things `detect` variations in temperature. They `influence` their behaviour and `cause` them to adapt to their environment. These `are` some examples of adaptation:

a) Many trees `lose` their leaves in autumn, when they `detect` less hours of daylight. They `produce` new leaves in spring, when they `detect` more hours of daylight.

b) Flowering and forming of fruits also `depend` on temperatures and hours of daylight and darkness. Plants `do not form` flowers and fruits in the same season.

c) The babies of animals `are born` during the ideal season for feeding them. The breeding seasons of many animals `start` when the days `are` shorter and the temperatures `are` lower.

d) Some birds `migrate` at certains times of the year.
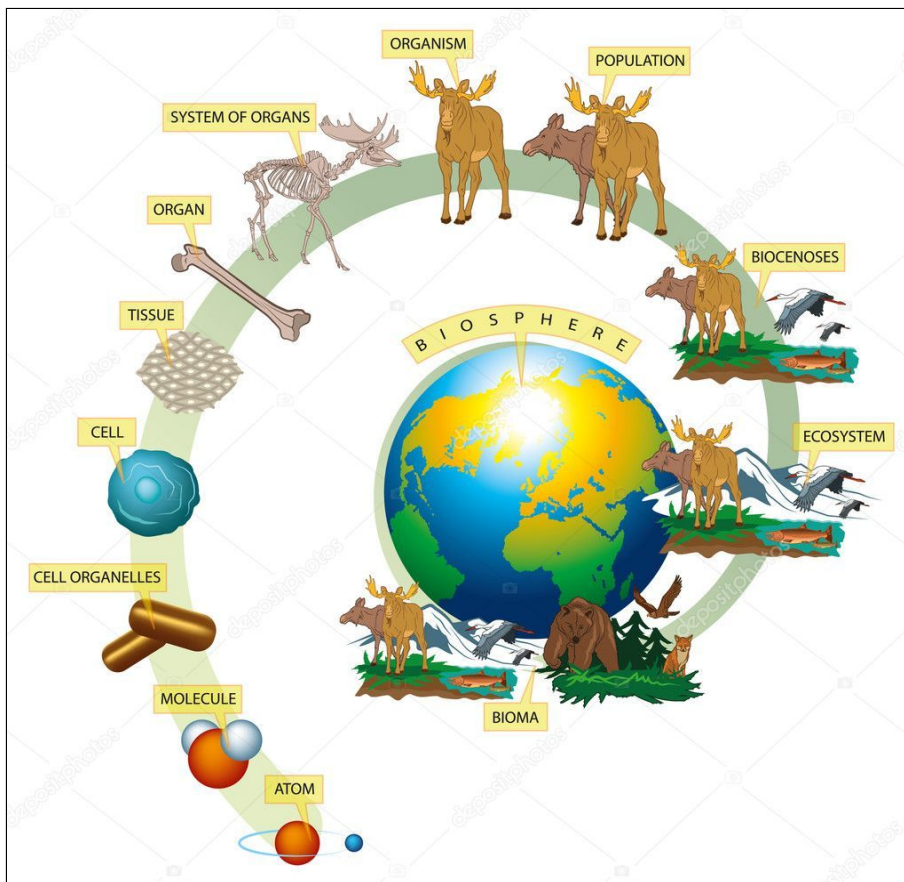
→ The living world

watch the video and answer these questions using the

Present Simple or the Past Simple in your notebook:
→ "Everything you need to know about planet Earth":
https://www.youtube.com/watch?v=JGXi_9A__vc

1. How old is our planet compared to the universe?
2. How much water do we find in the surface of Earth?
3. How did Mount Everest form?
4. Where does Earth stop and space begin?

ACTIVITY 11: Can you give 3 more examples of adaptation of living things to the Earth's movements? Use the **Present Simple** to answer.

Other examples of adaptation to the Earth's movements are

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SCIENTIFIC GLOSSARY SECTION 5 → Define the following words using the **Present Simple** or the Past Simple, as indicated:

1. **Revolution:** (present)

2. **Leap year:** (present)

3. **Seasons:** (present)

4. **Solstices:** (present)

5. **Equinoxes:** (present)

6. **Rotation:** (present)

7. **Meridian:** (present/past)


8. **Time zone:** (present/past)

CONSOLIDATION OF CONTENT AND LANGUAGE:
create a conceptual map of the section using the scientific vocabulary
and the appropriate verb tenses studied

6. THE SUN, THE EARTH AND THE MOON

The **Moon** is a satellite. How did the Moon form? Maybe, it formed when a giant object planet, Theia, hit the Earth 4.5. billion years ago (4 500 millions). A piece of Earth broke and continued in orbit around the Earth, sustained by the force of gravity.

The Moon has an average radius of 1 738 km. The average distance between the Moon and the Earth is 384 400 km, but every year it moves away from of our planet around 4 cm.

How does the Moon move? The Moon moves in two ways: revolution and rotation. Its revolution around the Earth takes 27.32 Earth days; this is the same as one rotation of the Moon. A lunar day is the same length as a lunar year. This is why the side of the Moon we see from Earth is always the same.
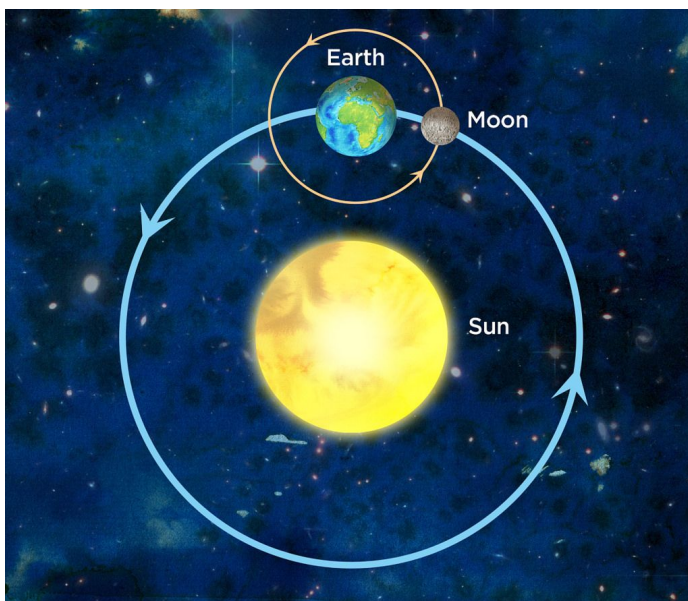
→ Earth-Sun-Moon system

watch the video and answer these questions using the

Present Simple in your notebook:
→ "How big is the Moon?": https://www.youtube.com/watch?v=Tqt9hZcwhJM

1. How big is the Moon in relation to Earth?
2. Why do they mention Pluto?

6.1. Phases of the Moon

The Moon `does not produce` its own light; it `reflects` the light from the Sun. The illuminated parts of the Moon `depend` on the position of the Moon in its orbit around the Earth. The **phases of the Moon** `are` the different images of the Moon we `see` when it `moves` around the Earth. **How do we identify each phase of the Moon?**

1. New Moon: the part of the Moon that `is` in darkness. We `can't see` it because it `does not receive` light. It `is` at its highest point at midday.
2. First quarter: the Moon `has got` the shape of the letter 'D'. We `see` it from midday to midnight.
3. Full Moon: the visible part of the Moon `is` completely illuminated. We `see` it all night.
4. Last quarter: the Moon `has got` the shape of the letter 'C'. We `see` it from midnight to midday.
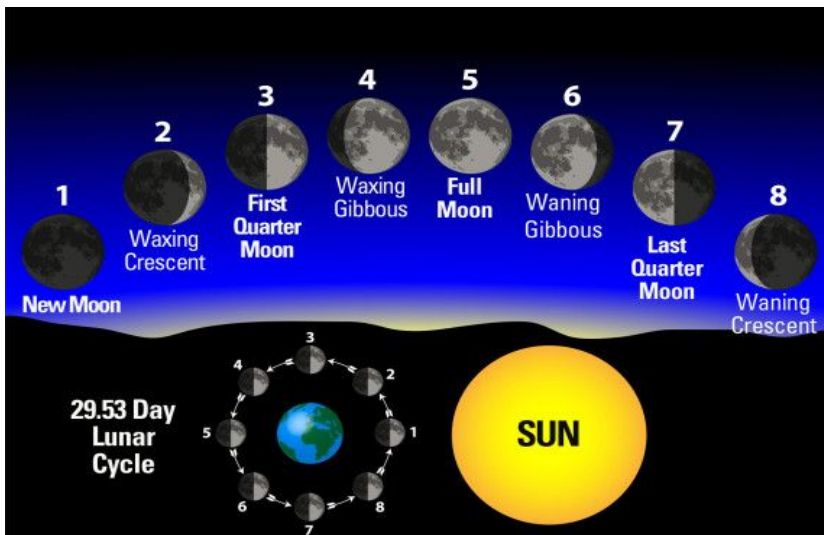
→ Phases of the Moon

A **lunar month** `is` the repetition of the phases of the Moon. One lunar month `lasts` about 29 days. `There are` 12 lunar months. Every two or three years `there is` a lunar year with 13 full months.

ACTIVITY 12: DISCUSS WITH YOUR GROUP → Imagine we could look at the Earth from the Moon. Could we see 'phases of the Earth'? Use the **Present Simple** and the Past Simple to discuss and explain your answer. Write down your ideas first. You can use Spanish to discuss if it helps.

I think that /In my opinion,

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6.2. Eclipses

An **eclipse** occurs when one body comes between two others and one of them hides. There is an eclipse when the Sun, the Earth and the Moon are in a line. An eclipse is total or partial; this depends on the amount of the Sun or Moon that hides. There are a minimum of 4 eclipses in the year: two solar eclipses and two lunar eclipses.

Solar eclipse	The Moon comes between the Earth and the Sun.
Lunar eclipse	The Earth comes between the Moon and the Sun.

ACTIVITY 13: DISCUSS WITH YOUR GROUP → Is it possible that there is a solar or lunar eclipse in the first quarter and the last quarter of the phases of the Moon? Use the `Present Simple` to discuss and explain your answer. Write down your ideas first. You can use Spanish to discuss if it helps.

I think that /In my opinion,

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DRAW AND EXPLAIN TO THE CLASS → Draw a diagram of a solar eclipse and a lunar eclipse and label all the elements.

6.3. Tides

Tides `are` the periodic rising (movement up) and falling (movement down) of the sea levels. They `occur` because of the gravitational attraction of the Moon. **When does each type of tide occur?**

High tides	- The sea level `goes` up. - They `occur` on the side of the Earth that `looks` at the Moon and on the opposite side.
Low tides	- The sea level `goes` down. - They `occur` on the other two sides of the Earth.
Spring tides	- They `occur` when the Moon, the Earth and the Sun `are` in a line. - They `occur` when high and low tides `are` stronger (very high and very low).
Neap/dead tides	- They `occur` when the Moon and the Sun `form` an angle of 90º with respect to the Earth. - They `occur` when the tides `are not` strong.
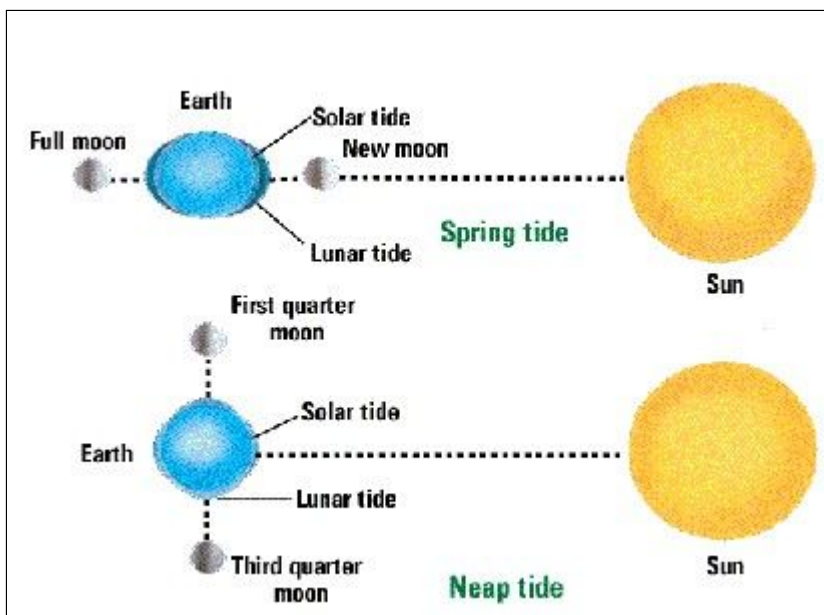
→ The tides

ACTIVITY 14: DISCUSS WITH YOUR GROUP → What is the difference between spring tides and neap/dead tides? Which phases of the Moon do they coincide with Use the `Present Simple` to discuss and explain your answer. Write down your ideas first. <mark>You can use Spanish to discuss if it helps.</mark>

I think that /In my opinion,

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SCIENTIFIC GLOSSARY SECTION 6 → Define the following words using the `Present Simple` or the `Past Simple`, as indicated:

1. **Moon:** (present/past)

2. **Phases of the Moon:** (present)

3. **Lunar month:** (present)

4. **Eclipse:** (present)

5. **Tides:** (present)

CONSOLIDATION OF CONTENT AND LANGUAGE:
create a conceptual map of the section using the scientific vocabulary and the appropriate verb tenses studied

REVISION OF FACTS

Think about the following events or phenomena. Then, try to explain them to the rest of the class using the **Present Simple**:

a) How do scientists measure distances in the Universe?

b) How do we distinguish galaxies from nebulae?

c) What do we find in our galaxy?

d) How do we identify a star?

e) How do stars group?

f) What bodies do we find in the Solar System?

g) How do the planets move?

h) How does the Earth move?

i) Why do seasons occur?

j) Does the Earth's movement affect living things? Why or why not?

k) How do we identify a New Moon and a Full Moon?

l) When does an eclipse occur?

m) When do high tides and low tides occur?

REVISION OF IMPORTANT EVENTS IN THE PAST

Think about the following events or phenomena. Then, try to explain them to the rest of the class using the Past Simple:

a) How did the Big Bang happen?

b) How did atoms, molecules, stars and galaxies form?

c) What did the theory of inflation explain?

d) What did the Geocentric and Heliocentric models affirm?

e) What did Kepler discover in the 17th century?

f) How did nebulae form?

g) Why did scientists create time zones?

h) How did the Moon form?

LANGUAGE CONTENTS OF THE UNIT

THE PRESENT SIMPLE

❑ <u>STRUCTURE/FORM</u>:

- AFFIRMATIVE: subject + verb [+(e)s with 'he/she/it'] + complements

    - The science that <u>studies</u> the origin and evolution of the Universe is astronomy.
    - The planets <u>orbit</u> the Sun in an anticlockwise direction.

- NEGATIVE: subject + DO [I, you, we, you, they] / DOES [he, she, it] + INFINITIVE + complements

    - The Sun does not move and it is in the centre of the Universe.
    - The Moon does not produce its own light.

- INTERROGATIVE: wh- word + DO [I, you, we, you, they] / DOES [he, she, it] + subject + INFINITIVE + complements?

    - What do we find in our galaxy?
    - How do we identify a star?

❑ <u>USE</u>: we use the `Present Simple` in this unit to talk about...
- generalizations
- facts and universal truths
- permanent situations

THE PAST SIMPLE

❑ STRUCTURE/FORM:

- AFFIRMATIVE: subject + verb [Regular→ +(e)d / Irregular → 2nd column] + complements

    - The stars <u>joined</u> to form galaxies and the other bodies in the Universe.
    - In the 19th century, scientifics <u>divided</u> the Earth into 24 meridians.

- NEGATIVE: subject + DIDN'T + INFINITIVE + complements

    - The expansion of the Universe did not occur slowly.
    - Time zones and meridians did not exist three centuries ago.

- INTERROGATIVE: wh- word + DID + subject + INFINITIVE + complements?

    - What did scientists do to unify time zones?
    - How did the Moon form?

❑ <u>USE</u>: we use the Past Simple in this unit to talk about...
- something that happened once in the past
- something that was true for some time in the past

La enseñanza de gramática en un segunda lengua ha sido un tema controvertido a lo largo de la historia de la enseñanza para profesores, lingüistas e investigadores, y aún hoy en día lo sigue siendo. Junto con esta preocupación, las autoridades europeas han tomado las medidas e iniciativas necesarias para promover y estandarizar el aprendizaje de lenguas extranjeras. Es en este contexto donde aparece el 'Aprendizaje Integrado de Contenidos y Lenguas Extranjeras', conocido por CLIL por sus siglas en inglés. A pesar de la escasez de estudios longitudinales y empíricos sobre el papel que ocupa la gramática en este paredigma, es necesario hacer una revisión en perspectiva patra entender el estado de la cuestión. Este estudio teórico-descriptivo intenta entender y reflexionar acerca de las dicotomías que envuelven a la gramática en el aula de idiomas, y más concretamente, en la metodología CLIL que se ha de usar en los programas bilingües en nuestro país, cumpliendo así con la normativa europea y estatal. Más concretamente, el equilibrio entre el enfoque comunicativo y la concreción gramatical, alejándonos de los extremos que tradicionalmente han imperado. Este estudio defiende que es posible integrar el contenido específico de una materia con el aprendizaje de la gramática y ofrece a los profesores de las disciplinas no lingüísticas y de lengua extranjera una herramienta útil de trabajo a partir de la cual diseñar sus propios materiales, siendo esta una labor ardua pero necesaria.