CLILprime

A transnational dialogue to calibrate CLIL implementation

Promoting CLIL implementation in Europe

2016-1-EL01-KA201-023703

Editors: Dr. Marina Mattheoudakis, Dr. Ioanna Ziaka
Promoting CLIL implementation in Europe

Thessaloniki, 2019

Cooperation for innovation and the exchange of good practices

Strategic Partnership for school education (Key Action 2)

Project number: 2016-1-EL01-KA201-023703

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This project has been funded with support from the European Commission. This publication reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.


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Technical support: #ομάδαReady by Vodafone
Contents

Foreword .................................................................................................................................................. 3

Chapter 1. Content and Language Integrated Learning in Greece: it’s here to stay
Marina Mattheoudakis ............................................................................................................................... 6

Chapter 2. Designing a scheme of work for CLIL lessons in a primary school
Joanne Gillespie ..................................................................................................................... 28

Chapter 3. Teaching Environmental Studies through CLIL to 4th grade learners in an
urban area Ioanna Ziaka .......................................................................................................................... 52

Chapter 4. The implementation of a CLIL History course: sharing experience and
challenges Varvara Koutalakidou .............................................................................................................. 72

Chapter 5. CLIL-ing Greece: ‘Environmental Studies’ in the 3rd grade of primary
school Eleni Sofroniadou .......................................................................................................................... 88

Chapter 6. CLILing on a chessboard
Thomas Zapounidis ............................................................................................................................... 111

Chapter 7. Teaching Physical Education through CLIL to young learners
Kyriaki Emmanouilidou ........................................................................................................................... 127

Chapter 8. Scaffolding for CLIL lessons
Katingo Vati ............................................................................................................................................... 147
Foreword

The present volume is one of the deliverables of an Erasmus+ Strategic Partnership for school education project, no. 2016-1-EL01-KA201-023703, under the title “Promoting CLIL Implementation in Europe”, (henceforth CLILprime), funded by the European Commission.

The project was launched in September 2016 and was completed in August 2019. It aimed at exploring CLIL implementation in different European educational contexts and calibrating standards and practices for practitioners who are engaged or wish to engage in CLIL teaching. These common standards have been the result of a pedagogic bottom-up dialogue among educators from different educational contexts in various European countries.

In particular, the participants of this project included five European primary schools and a University Department:

- the 3rd Experimental Primary School of Evosmos, which was also the coordinating organization, a public school located in Thessaloniki, Greece
- Fundatia Internationala Educational Center, an international private school located in Constanta, Romania
- St. Thomas's International School, a bilingual private school located in Viterbo, Italy
- Saules Gojus, a private school in Vilnius, Lithuania
- Zakladni skola a Materská skola Kladno, Doberska 323, a public school in Kladno, Czech Republic
- The School of English at the Aristotle University of Thessaloniki, Greece

The variety of the educational settings, as well as the differences in the educational backgrounds and teaching experiences of the participants ensured rich opportunities for dialogue and allowed the exchange and dissemination of CLIL experiences from one European context to another. The transnational dialogue that developed over the three years addressed challenges related to CLIL implementation as these had been identified by all participants. Such dialogue catered for cultural and institutional variations and contributed to the adoption of common CLIL practices that can fit different educational contexts and satisfy the stakeholders involved. Transnational cooperation further developed educators' professional skills and profile and allowed comparability of learning outcomes and standardization of teaching procedures.
The deliverables of this three-year project include a MOOC course, intended for initial training of teachers interested in CLIL implementation, as well as a significant amount of teaching materials, as these were created, implemented and peer-reviewed by project participants, on the project's OER platform. The platform also hosts the reports of the study visits in the countries involved in the project as well as the presentations made during those visits.

The present volume includes eight chapters written by educators who participated in the CLILprime project.

In the first chapter, Marina Mattheoudakis reviews CLIL implementation in Europe and in Greece and offers details of the scope of the project CLILprime. The rest of the chapters are based on CLIL educators’ experiences and are actual cases of CLIL implementation in different educational settings.

In chapter 2, Joanne Gillespie, respectively, explains how she designed a scheme of work for a history class, elaborating on all factors she considered to arrive at a series of lessons to satisfy the needs of her learners.

In chapters 3, 4, and 5 Ioanna Ziaka, Varvara Koutalakidou and Eleni Sofroniadou, respectively, discuss the challenges faced, the choices made and the teaching techniques used while implementing CLIL in History and Environmental Studies with third and fourth graders.

In chapters 6 and 7, Thomas Zapounidis and Kyriaki Emmanouilidou, respectively, present CLIL implementation in lower grades (Physical Education in grade 2 and Chess in grade 1) and the challenges faced due to the young age and limited proficiency level of the students involved.

Finally, in chapter 8, Katingo Vati, respectively, reviews the literature on scaffolding strategies and elaborates on the strategies she used in her own lesson during the project, both with her own students and those she taught during the study visits of the project.

Last but not least we would like to thank Dr Thomai Alexiou, Dr. Vassilis Neofotistos and Dr. Thomas Zapounidis for proofreading the manuscript.

The editors
Dr. Marina Mattheoudakis
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Chapter 1. Content and Language Integrated Learning in Greece: it’s here to stay

Content and Language Integrated Learning in Greece: it’s here to stay

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Abstract
The present chapter aims to provide a short overview of the history of CLIL method in Europe and discuss its significance for the foreign language education as well as its role for the promotion of multilingualism. Additionally, the chapter presents the introduction of CLIL in Greece, which is one of the last countries in Europe to adopt it. In particular, it describes the pioneering role of the 3rd Experimental Primary School of Evosmos, as this was the first state primary school in Greece to implement CLIL. Finally, reference is made to an innovative Erasmus+ project – CLIL Prime – designed and coordinated by this school; the particular project, which has just been completed, aimed to create collaborations among schools in various European countries so as to promote calibration of teaching techniques and materials in CLIL contexts.

Keywords: CLIL, 3rd Experimental Primary School of Evosmos, Greece, Erasmus+, CLIL Prime

1. CLIL: The route to multilingual Europe

Foreign language teaching is a political issue in Europe (Dalton-Puffer, Nikula and Smit, 2010). The European Union recognizes that multilingualism is an essential feature of European citizenship (Hall, 2013) and one of the key priorities of the European education policy is the fast and effective foreign language education and the promotion of plurilingualism in Member States. Additionally, the European Framework for Key Competences for Lifelong Learning includes the communication in foreign languages in the list of the eight competences that European citizens need for personal fulfillment and development, active citizenship, social inclusion and employment (The European Qualifications Framework for Lifelong Learning, 2008). About 20 years ago, the White Paper (1995) suggested that all Europeans should acquire language skills in 3 European languages
Chapter 1. Content and Language Integrated Learning in Greece: it’s here to stay

(M+2: their mother tongue and two foreign languages); to this aim, most European states introduced foreign language instruction into the early grades of primary education and a second foreign language became compulsory during primary or secondary school. These steps were expected to increase foreign language input and extend instruction time for foreign languages, in general (see Eurydice, 2012; Eurydice, 2017).

However, as research suggests, the age of onset is only one of the factors affecting success in language learning. Early language instruction has to be supported by systematic instruction, which becomes more intensive as students get older and of course, by continuity and coherent transition from primary to secondary school as far as foreign language education is concerned (Alexiou and Mattheoudakis, 2013). It takes a long time to learn a second language and a couple of hours a week, no matter how young the learners started or how long their studies lasted, cannot produce advanced L2 speakers (Lightbown and Spada, 2011). This so called ‘drip-feed’ approach (Vez, 2009:8) is quite frustrating for learners who end up feeling disappointed and demotivated when they realize that their language competences after so many years of foreign language learning do not actually match the time and money invested.

What is more, traditional methods of teaching foreign languages commonly applied in various educational settings were found ineffective for the promotion of second language acquisition within the school context. The teaching of foreign languages as school subjects has not produced the expected results and, additionally, research clearly indicates that “there is no linear relationship between instruction time and learning achieved” (Lasagabaster and Sierra, 2010:367). In other words, the knowledge and skills acquired in a formal instructional context reach a plateau and even if exposure is increased there is not a corresponding effect on learning outcomes (Rifkin, 2005; Heining-Boytont and Haitema, 2007).

Content and Language Integrated Learning (CLIL) was proposed as a solution to the aforementioned problems and was adopted in 1994 by the European Network of Administrators, Researchers and Practitioners. CLIL is currently considered to be one of the most important and interesting developments in the area of L2 teaching methodology the last 20 years. One of the best-known definitions of CLIL is that provided by Coyle, Hood and Marsh (2010: 1): “… a dual-focused educational approach in which an additional language is used for the learning and teaching of both content and language”.

The acronym CLIL is a generic term and has been used to refer to any type of educational provision in which a language other than the language of the curriculum is used
to teach school subjects in the curriculum other than the foreign/second language lessons themselves (Wolff 2002; Eurydice, 2006). This covers cases of foreign, regional or minority languages. The teaching of a foreign language through content is definitely not new in the field of language teaching. CLIL is in fact the European version of content-based instruction (CBI), usually associated with the Canadian immersion programmes which started in 1965 (Zaga, 2004; Cenoz 2015). The overriding conclusion from studies carried out in the Canadian educational contexts is that the integration of L2 with content matter is more effective than L2 instruction in isolation (Genesee, 1994, as cited in Pérez-Cañado, 2012). The integration of content and language is based on the idea that languages are not learned first and then used but that they are learned by being used (see Genesee and Lindholm-Leary, 2013).

CLIL has been welcomed by schools and policy makers in Europe as a convenient solution to the problem of achieving the best possible learning outcomes within the constraints of the school curriculum. This method allows language instruction to become more intensive, since it adds further input to that provided in the regular foreign language classes, without however overloading the school timetable. In this respect, CLIL can be effectively implemented with several foreign languages – even within the same educational setting – and thus promote plurilingualism (cf. White Paper, 1995; Lasagabaster and Huguet 2007). Today CLIL is clearly regarded on the political level as the main strategy for creating a multilingual population in Europe. The EU has officially recognized its potential in promoting multilingualism and this is obvious in important policy documents issued the past 20 years (e.g. European Commission, 2003, 2005, 2008)\(^1\). Also, several CLIL projects have been funded by the Council of Europe aiming to support teacher training, materials development, research and dissemination\(^2\).

CLIL is nowadays implemented at all educational levels; preschool, primary school, secondary school and higher education. It is a flexible approach and has been variously adapted to serve the needs of the different educational and cultural contexts where it has been adopted (see also Wolff, 2002; Lasagabaster, 2008). Coyle, Hood and Marsh (2010) have referred to this ‘transferability’ of CLIL across educational and cultural contexts as one of the reasons for its success. Coyle (2008) claims that this flexibility is both its strength and

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\(^1\) Information about policy documents issued by the European Commission can be found at: [https://ec.europa.eu/commission/index_en](https://ec.europa.eu/commission/index_en)

\(^2\) Information on CLIL projects funded by the Council of Europe as well as their outcomes is available at the site of The European Centre for Modern Languages: [http://www.ecml.at/F7/tabid/969/language/en-GB/Default.aspx](http://www.ecml.at/F7/tabid/969/language/en-GB/Default.aspx)
potential weakness. The strength of CLIL lies in the integration of content and language learning in varied, dynamic environments built on both ‘bottom-up’ initiatives and ‘top-down’ policy. Its “potential weakness lies in the interpretation of this flexibility unless it is embedded in a robust contextualised framework with clear aims and projected outcomes” (Coyle, 2008:546 see also Ioannou-Georgiou, 2012).

Grin (2005, as cited in Coyle 2007) documents 216 different types of CLIL programs based on variables such as compulsory status, intensity, age of onset, starting linguistic level, or duration. Also, the role of CLIL in the curriculum varies widely among schools, educational contexts and countries. So, CLIL may refer to teaching one or more subjects through the medium of the L2 but it may also refer to just content-based themes in language programmes (Eurydice, 2006). According to Massler, Stotz and Queisser (2014), there are two different types of CLIL: type A CLIL in subject lessons and type B CLIL in language lessons. In the former type, the learning aims are based on the content of the school subject taught through the medium of a foreign language and in this case, assessment is similarly based on content. In the latter type, foreign language instruction is thematically organised and content from school subjects (e.g. the solar system) is used in the language class. In this type of CLIL classes, both the aims and assessment focus on the foreign language. In this volume, CLIL will always refer to type A CLIL as defined by Massler et al. (2014).

2. The theoretical underpinnings

CLIL stems from communicative methodologies (Graddol, 2006; Lorenzo 2007), but it is a post-method pedagogy model (Coyle et al. 2010). It is in fact a combination of a number of theories and approaches and, according to Ioannou-Georgiou (2012), it combines the best of language education with the best of general education. CLIL has successfully brought together Second Language Acquisition (SLA) researchers and L2 instructors and it has actually proven that the study of second language acquisition in instructed contexts is a field that is meaningfully productive for both theory and practice. Developments in second language acquisition research the last 20 years have contributed significantly to the interest in the kind of language learning that takes place in CLIL classrooms. In particular, CLIL provides an environment for naturalistic language learning where implicit teaching dominates, incidental learning is expected and meaning-based instruction is central. The theoretical underpinnings of CLIL include language learning theories, models and theoretical hypotheses but also Coyle’s (1999) 4C conceptual framework. We are going to briefly
present and discuss the most important and relevant of those theories and their contribution to the advancement of CLIL.

CLIL classes are predominantly input-based learning contexts. The significance of ample input for language acquisition was underscored by Krashen’s Monitor Model (1985). The input hypothesis, in particular, stresses the importance of exposing second language learners to input that is comprehensible and that contains i+1, where ‘i’ stands for the level already acquired and ‘1’ for the language that is just a step beyond that level (Lightbown and Spada, 2011). CLIL classes are a rich pool of L2 input which is made comprehensible through the continuous interactions between all class participants, but also with the use of various techniques and strategies employed by CLIL instructors.

However, the Input Hypothesis is not adequate to interpret learner’s language development in CLIL classes. Besides ample input, these educational contexts provide rich opportunities for language output. CLIL classes push learners to use language that frequently challenges and stretches their limits of language ability. According to Swain’s Output Hypothesis (1985), this is exactly what helps learners’ interlanguage to develop. Comprehensible input can help learners to develop comprehension skills but it cannot help them develop their productive skills. Unless learners are pushed to their limits of their language ability, errors will persist and language development will stagnate.

The effectiveness of CLIL instruction is largely also based on the continuous interactions and meaning negotiations that take place between students and teachers and among students themselves in CLIL classes. Conversational interaction is considered to be an essential condition for second language acquisition (Hatch, 1978; Pica, 1994; Long, 1996; Gass, 1997). Successful interaction requires modification of speech in order to ensure comprehension and participation in the conversation. Long’s Interaction Hypothesis (Long, 1996) summarizes this relationship as follows: (a) interactional modification makes input comprehensible, (b) comprehensible input promotes acquisition; therefore (c) interactional modification promotes acquisition. For Long, students’ involvement in meaning negotiation is what helps them develop their language.

Vygotsky’s sociocultural theory (1978) is very relevant to how learning develops in CLIL classes and resonates some of the theories already mentioned above. Vygotsky believes that learning is possible when an individual interacts with an interlocutor within his/her zone of proximal development. In other words, students are capable of developing their knowledge when they receive support either from their teacher or from a peer who is at a higher level
than themselves. The emphasis of this theory (*Zone of Proximal Development*) is on how learners construct their knowledge in cooperation with their teacher/peers while engaging in productive tasks with them.

The need for Focus on Form in immersion and other bilingual classes was stressed by various researchers, including Swain, but it was Doughty and Williams (1998) who actually developed the particular theory. Interest in Focus on Form was motivated by findings from immersion studies suggesting that when classroom instruction is entirely meaning-based, learners fail to develop linguistic features to ‘target like levels’. However, when pedagogic interventions were made in the form of communicative activities, such limitations were successfully overcome. Such findings from immersion studies are particularly useful and informative for CLIL contexts because they similarly place a lot of emphasis on meaning-based instruction. According to Ruizde Zarobe and Cenoz (2015:91), “focus on form aims to bring together accuracy and fluency by drawing attention to the need to integrate both content-based and form-focused instructional options”; both of them are necessary processes for developing a learners’ interlanguage. Focus on Form does have a role to play in CLIL classroom as long as it does not dominate instruction to the detriment of the aims promoted by CLIL.

Cummins’ conceptualisation of language proficiency has had an important impact on the development of bilingual education programmes. He proposed that language proficiency consists of two distinct components: BICS (Basic Interpersonal Communication Skills) and CALP (Cognitive Academic Language Proficiency). The development of these components involves different language and cognitive processes. BICS refers to conversational proficiency that is necessary for everyday face-to-face communication, and develops within approximately two years of L2 instruction; CALP, on the other hand, refers to deeper-level language proficiency that is necessary for dealing with more abstract, academic situations, it involves the development of literacy skills, and can develop within five to seven years or even more of L2 instruction (Cummins, 1992). So, learners first learn to communicate effectively in real-life oral communication, and then they become competent readers and writers in the target language (L1 or L2). L2 instruction needs, therefore, to promote not only the surface-level language proficiency, but also the deeper-level cognitive/academic

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1In this respect, it would be interesting to see also Lyster (2007) who has proposed the *Counterbalanced Approach* which brings together form-focused and content-based approaches in education.
Chapter 1. Content and Language Integrated Learning in Greece: it’s here to stay

proficiency, which puts emphasis on how language is actually used in concrete situations for particular communicative purposes. CLIL approaches have been shown to promote the development of CALP, since they focus on the development of critical or deeper-level thinking and meaningful language use (cf. Grabe and Stoller, 1997). This happens because CLIL learners participate in tasks that engage them cognitively and require the use of L2 for the expression of abstract and academic concepts in a meaningful context. Thus, they learn to use their thinking skills to acquire new content and language (Mattheoudakis et al., 2014).

Thinking skills are part of any learning context. When we refer to CLIL contexts, though, we need to remember that learners are constantly cognitively challenged as they are required to acquire new content in a foreign language. Very often this new content lies outside their direct experience and may even be abstract. Within this context, CLIL learners are led to move beyond lower-order thinking skills (LOTs) and develop higher order thinking skills (HOTs). Reference to thinking skills within the CLIL context is usually related to Bloom’s (1956) taxonomy and its revised version by Anderson and Krathwohl (2001). Bloom was the first to develop a hierarchy of six thinking skills placed on a continuum from lower to higher order skills: knowledge, comprehension, application, analysis, synthesis and evaluation. Lower order skills included recalling knowledge to identify, label, name or describe things. Higher order skills refer to the application, analysis, synthesis and evaluation of knowledge; In this case, learners apply new information or a new concept in a new situation, analyse it into its components in order to comprehend it or put together ideas to create something new. Bloom’s taxonomy sheds light into what actually happens in CLIL classes where emphasis is clearly put on critical thinking and problem solving skills rather than on simple understanding and memorisation. Recall here that CLIL teachers need to systematically check on learners’ comprehension and activities that require application, analysis, synthesis and evaluation are the most appropriate ones for learners to demonstrate comprehension.

The 4Cs framework was proposed by Coyle (1999, 2006) as a sound theoretical and methodological foundation that would allow practitioners to plan CLIL lessons and develop materials because of its integrative nature (Meyer, 2010). The framework focuses on the interrelationship between Content (subject matter), Communication (language), Cognition (learning and thinking) and Culture (social awareness of self and ‘otherness’) and takes account of ‘integration’ on different levels: learning (content and cognition), language (communication and cultures) and culture (social awareness of self and ‘otherness’).
Chapter 1. Content and Language Integrated Learning in Greece: it’s here to stay

Culture(s) permeates the whole and as Coyle (2008) suggests, culture is really an integral part of the interaction between language and thought.

The majority of the theories and models presented here are more relevant to language specialists than to content experts. It is obvious that content specialists who are involved in CLIL need to know about language learning and teaching if they want to be able to enhance their learners’ language skills. Of course, the ideal situation would involve a content specialist collaborating with a language specialist at all stages of CLIL instruction (setting learning objectives, lesson planning, material design and production, teaching). Shared expertise of language and content teachers is the optimal solution to the implementation of successful CLIL classes. As Swain (1998) has pointed out,

“[g]ood content teaching is not necessarily good language teaching … content teaching needs to guide students’ progressive use of the full functional range of language, and to support their understanding of how language form is related to meaning in subject area material. The integration of language, subject area knowledge, and thinking skills requires systematic monitoring and planning” (Swain 1998: 68).

3. Research in CLIL: where we are and what we know today

An international research scene focusing on CLIL started to evolve at the beginning of the 21st century (Dalton-Puffer and Nikula, 2006). CLIL spread much faster than anyone could have anticipated and measures of its impact followed soon after but at a much slower pace (Wolff, 2005). To date CLIL has been studied from various perspectives and here we are going to take only a panoramic view of the most important findings of this research.

Dalton-Puffer, Nikula and Smit (2010) distinguished between process- and product-oriented studies and between studies at the macro- and micro- level. Product-oriented macro studies have looked into the results of CLIL programmes already implemented (e.g. Coyle, Hood and Marsh, 2010). Process-oriented macro studies are looking into the process of implementation (e.g. Lorenzo, Casal and Moore, 2009). All those macro studies provided the necessary boost practitioners but also politicians and educational authorities needed in order to enhance the implementation and improvement of CLIL programmes. Those studies also offered a robust foundation on which decisions regarding the continuation of CLIL were based (Llinares, 2015).
Chapter 1. Content and Language Integrated Learning in Greece: it’s here to stay

Micro studies looked into the language outcomes of CLIL students in comparison with the language outcomes of EFL learners. Those studies were much needed as they addressed European Union’s particular interest in CLIL programmes. Recall here that CLIL was the solution suggested by the European Union to improve a long tradition of poor results in foreign languages in some member states. Research conducted during the past 10 years points towards some common findings. In particular, gains have been reported in the following areas: overall language ability (Jexenflicker and Dalton-Puffer, 2010; Lorenzo and Moore, 2010), communicative competence (Klieme, 2006, as cited in Dalton-Puffer 2008), acquisition of academic content (Lorenzo and Moore, 2010), academic language and language complexity (Maillat, 2010). Positive results were also found in the writing of CLIL students (Jexenflicker and Dalton-Puffer, 2010; Ruiz de Zarobe, 2010) and in the acquisition of morphosyntactic features, in particular (Hüter and Rieder-Bünemann, 2010). As regards their speaking skills, CLIL students often display greater fluency, ability to produce longer stretches of discourse as well as creativity; they also tend to be risk-takers when using the language, a feature that has often been associated with good language learners (Naiman, 1995). By far, the greatest gains for CLIL learners in terms of the language system are in the acquisition of vocabulary. Through studying content subject in an L2, learners are massively exposed to technical vocabulary, to academic discourse but also to lexical chunks, idioms and collocations that are rarely encountered in foreign language classrooms. Thus, research findings consistently support that vocabulary and in particular, receptive vocabulary is positively affected by CLIL instruction (Jiménez Catalán and Ruiz de Zarobe, 2009; Xanthou, 2011; Merikivi and Pietilä, 2014, among others).

It is interesting in this respect to point out that CLIL classes have been found to benefit learners with special linguistic gifts; those learners can reach very high levels of proficiency and this is perhaps not particularly surprising. However, what may be surprising is that CLIL has been found to significantly promote the language skills of average students. This is a consistent finding observed in various studies and it is a gain that should not be overlooked (e.g. Mewald, 2004; Mattheoudakis et al., 2014; Mattheoudakis et al., 2018).

Studies of the impact of CLIL on content outcomes are much fewer; Llinares (2015) attributes this to the fact that CLIL has mainly attracted Applied Linguists’ and language educators’ interest while content is an issue that requires collaboration between language and content experts. However, the issue of whether CLIL students are able to understand and learn content that is taught in a foreign language is a continuous concern of educators and
parents (Dalton-Puffer, 2008). As the language of instruction is not learners’ mother tongue, it is feared that CLIL learners may not be able to understand the content as well or as accurately as they would have if the language of instruction was their L1. However, research into the impact of CLIL on content learning seems to indicate quite the opposite: CLIL learners are, in general, better content learners than non-CLIL learners and they often outperform peer controls when tested in the L1 (Van de Craen et al., 2007; Brüning and Purrmann 2014). As they need to process and comprehend content in a foreign language, they construct complex concepts and schemata. Similar results were obtained in other educational contexts as well (e.g. in Finland by Jäppinen, 2005 and in Greece by Mattheoudakis et al., 2014; Mattheoudakis et al., 2018). Such findings may be attributed to CLIL students’ greater persistence on tasks assigned, and to their higher tolerance of frustration. These allow them to acquire “a higher degree of procedural competence in the subject” (Vollmer et al., 2006 cited in Dalton-Puffer, 2008: 4). Linguistic difficulties, far from discouraging and leading to task abandonment, often trigger higher mental activity which leads to deeper semantic processing and better understanding of curricular concepts (ibid.). Of course, apart from looking into the learning process from students’ perspective, we should also care to look at what CLIL teachers do during their classes. In other words, outperformance of CLIL learners may also be attributed to the demands CLIL places on teachers. CLIL educators are very well aware of the difficulties learners may encounter in their efforts to process the content in a language other than their mother tongue. Such difficulties are often due to a new or difficult concept or even to the use of another language and to the academic vocabulary. The difference between CLIL and non-CLIL educators is the fact that the former are ‘more sensitive’ to these difficulties and continuously alert to the signals students may send - consciously or not – indicating lack of comprehension. Academic vocabulary is frequently very hard even in L1. However, similar difficulties are usually ignored, not because of content teachers’ indifference, but because knowledge of L1 is a given and very often this is overestimated; teachers are not always aware that L1 vocabulary may be unknown sometimes and therefore needs to be explicitly taught. For CLIL teachers, this is a default situation. Everything needs to be explained, illustrated, simplified and checked and therefore they are in a dialogic interaction with their students as they need continuous confirmation that comprehension has been achieved. As a result, CLIL teachers are in a better control of what and how much of the content has actually been understood and acquired (Mattheoudakis and Alexiou 2017).
Chapter 1. Content and Language Integrated Learning in Greece: it’s here to stay

As for the effect of CLIL on affective factors, research findings are contradictory. Heras and Lasagabaster’s recent study (2015) in motivational differences between CLIL and non-CLIL groups revealed no motivational differences as regards two particular aspects of affective factors (motivation and self-esteem). Such findings contradict findings of a previous study by Lasagabaster (2011) but also findings by Mattheoudakis et al. (2014), which actually highlighted the positive impact of CLIL on students’ motivation. Another study by Psaltou-Joyceyet et al. (2014) shed light on the strategies used by CLIL and non-CLIL learners; the results of this comparative cross-sectional study showed quantitative and qualitative differences in reported strategy use in favour of the CLIL learners (see also Ziaka, 2014).

Notwithstanding the large number of studies and papers that have been published on the positive and promising outcomes of CLIL, there are also researchers who have voiced concerns. Bruton (2011), for example, published an interesting critique where he does not aim to doubt the beneficial effects of CLIL, but the anomalies observed in the research, analysis and conclusions drawn. He questions the validity of some of the research conducted, mainly in Spain, and points to the need for “serious disinterested reliable quality research being conducted” (Bruton, 2011:531). In a more recent article, Bruton (2013) again attacks the restrictive nature of CLIL, as he calls it, and by this he refers to the process of selecting students for CLIL classes. However, Bruton (ibid.) refers to specific educational and cultural contexts and on the basis of those he tends to overgeneralise and draws conclusions that do not apply to all contexts.

4. CLIL in Greece: What took us so long?

According to Eurydice (2012:39),

“[i]n nearly all European countries, certain schools offer a form of education provision, according to which, non-language subjects are taught either through two different languages, or through a single language which is ‘foreign’ according to the curriculum. This is known as content and language integrated learning. Only Denmark, Greece, Iceland and Turkey do not make this kind of provision”.

This was indeed very much the case in Greece until 2010 when CLIL started on the level of local grass-roots activity with the introduction of some CLIL instruction in a
Chapter 1. Content and Language Integrated Learning in Greece: it’s here to stay

particular state primary school in Thessaloniki (3rd Experimental Primary School of Evosmos, supervised by the School of English, Aristotle University of Thessaloniki). This started as a pilot project and for the last 9 years CLIL has been expanding continuously within the school curriculum. CLIL has also expanded within the borders of the country as a bottom-up process thanks to the initiative taken by the School of English, Aristotle University and a school advisor as well as the invaluable help and support of the school (administration and teachers). As CLIL has been officially recognized by the EU as an effective and much promising method of teaching foreign languages at school, one may wonder whether there has been any impact on the Greek educational policies, especially after the initiative taken by the University. Unfortunately, the national educational authorities seem to be very slow to respond. Up to the date of publication of this ebook, there has been no official recognition of CLIL as a method of teaching in Greek state schools.

4.1 CLIL in the 3rd primary school: Experimental School of Evosmos

As already mentioned, CLIL started as a pilot project in Greece in 2010 in a state primary school in the western suburbs of Thessaloniki. Students attending the school are generally of average socioeconomic background. The 3rd Experimental Primary School of Evosmos follows a diversified curriculum which allows it to introduce several innovations with respect to its subjects, teaching materials, syllabus, methods of teaching. The School of English at the Aristotle University of Thessaloniki, in collaboration with the administration of the school and its teachers, introduces several of these innovations, supervises them and conducts research on their implementation and outcomes (see, for example, Mattheoudakis et al., 2014; Mattheoudakis, Chasioti and Alexiou, 2014; Psaltou-Joycey et al., 2014; Ziaka, 2014; Ziaka and Koutalakidou, 2014; Mattheoudakis et al., 2018, among others).

The Experimental school of Evosmos was the first state primary school in Greece which introduced foreign language instruction from grade 1. EFL instructors do not use commercial EFL course books but alternative teaching materials, ranging from fairytales to short novels, most of them authentic rather than simplified, internet material and other resources. Materials such as worksheets, quizzes and tests, are authored by the instructors themselves as they need to be tailor-made based on the books they use and their learners’ needs.

On top of the EFL classes, though, learners receive CLIL instruction; CLIL is now systematically implemented as a method of teaching various school subjects from grade 1 to
6. CLIL is not implemented in this school as an elitist approach to language learning and thus no student selection is made (cf. Bruton, 2013); on the contrary, CLIL addresses all students and thus, all students graduating from this school have received at least one year of CLIL instruction – for at least one subject. Our 9-year long experience has provided us with rich empirical findings and significant research results that clearly point to an inclusive approach that can function in all learning contexts with a broad and diversified range of learners (cf. Wolff, 2002). The particular school is a case in point.

The selection of subjects to be taught was made based on teachers’ qualifications. It is worth pointing out here that when we started implementing CLIL, we opted for foreign language teachers rather than content teachers to teach CLIL classes, even though this is not the case in other European contexts. The most important reason behind our choice is related to the adoption of type A CLIL (cf. Massler et al., 2014), which requires transmission of the content through the medium of a foreign language; thus, instructors had to be proficient in the L2 and able to understand the principles of instructed second language acquisition in order to help learners increase their output and develop their interlanguage. Given that all EFL teachers at school are highly qualified in teaching English, we looked for further qualifications – formal or informal – that might enable them to teach other subjects. The teachers eventually selected were able to teach Geography, Religious Education, Environmental Studies and History – either because they had a relevant degree or because they had a particular interest and advanced knowledge in this field. In 2013 we expanded the implementation of CLIL with the instruction of Science, ICT, Physical Education and Arts. As the particular subjects require specialized skills and knowledge, EFL teachers collaborated with specialist teachers. The last CLIL subject introduced in the school curriculum was Chess. This is a new subject in the national curriculum and we decided to include it in our CLIL subjects for first graders (see relevant chapter in this book).

All teachers involved in CLIL instruction design their own materials or alternatively adapt authentic materials that may suit their needs. They all follow the national school curriculum but they do not use the prescribed school course books; these are kept at school, so as learners will not have access to the material in Greek. Although English is exclusively the medium of instruction in CLIL classes, school course books that are used in English-speaking countries were not appropriate, as CLIL requires a pedagogical adaptation, especially at those initial stages of its implementation (cf. Lasagabaster and Sierra, 2009).
Chapter 1. Content and Language Integrated Learning in Greece: it’s here to stay

The first year of its implementation (2010-2011), CLIL was introduced to Grade 6 for the teaching of Geography for two hours a week, as prescribed by the national school curriculum. Gradually, over the next five years it expanded to more classes and more school subjects. In school year 2017-2018 it covered all grades and expanded even more to involve more subjects and more teachers. For the first time, a content teacher was chosen to teach Science (to 6th graders), initially in collaboration with an EFL teacher, but later on his own. Table 1 below illustrates the full gamut of CLIL subjects that have been taught in the school in grades 1 to 6 during the period 2010-2019.

Table 1: CLIL subjects taught during 2010-2019

<table>
<thead>
<tr>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
<th>Grade 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chess</td>
<td>Physical Education</td>
<td>Environmental Studies</td>
<td>History</td>
<td>Geography</td>
<td>Geography</td>
</tr>
<tr>
<td>Arts</td>
<td>Chess</td>
<td>History</td>
<td>Environmental Studies</td>
<td>Religious Education</td>
<td>Religious Education</td>
</tr>
<tr>
<td></td>
<td>Arts</td>
<td>Physical Education</td>
<td>Arts</td>
<td>History</td>
<td>Science</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ICT</td>
</tr>
</tbody>
</table>

5. The CLIL Prime – Erasmus+ project

CLIL is not an ideal method of teaching but it has the potential to improve the quality of both foreign language and subject teaching and bring together language educators and content teachers. It is based on a robust theoretical foundation and it is in line with the principles of P21 Framework for 21st century learning\(^4\) which defines the skills and knowledge required for 21st century citizens in order to succeed both personally and professionally.

The dissemination of CLIL instruction is closely related to CLIL training for both pre-service and in-service teachers. CLIL teacher training needs to be organized in collaboration with the academia and centrally coordinated by each European state individually. Additionally, the lack of appropriate teaching materials has been expressed time and again by various researchers and practitioners in other European countries. At this point there are CLIL materials published and used in a number of European countries but as CLIL materials became available.

implementation varies according to context, it is highly unlikely that those materials are transferable to different contexts. Teacher training should, therefore, also include training for material design based on CLIL principles and the 4C framework proposed by Coyle (1999).

Based on the above remarks, we consider it essential to establish a dialogue among practitioners at a transnational level. This would allow us to achieve calibration of CLIL techniques, account for cultural and institutional variations and establish a common ground of understanding. Such a transnational dialogue would ensure that learners throughout the European member states are offered equal educational opportunities. Transnational cooperation would further develop the skills and professional profile of educators and allow comparability of learning outcomes and standardization of teaching procedures.

To this end, the 3rd Experimental Primary School of Evosmos took the initiative to design and coordinate an Erasmus+ Project, CLIL Prime, which aimed to address the issues above; that is, to create collaborations among schools in various European countries so as to promote calibration of teaching techniques and materials in CLIL contexts. In particular, the project aimed to promote quality learning for all through (a) the creation of an OER (Open Educational Resources) platform offering CLIL teaching material, lesson plans, worksheets and teaching practices in diverse subject matters, and (b) offering teacher training via MOOC to teachers interested in implementing CLIL in their classrooms.

The results of this 3-year project have been very positive but also encouraging as they indicate that CLIL educators in Europe have acquired significant albeit diverse experiences in the CLIL classrooms and are both willing and ready to collaborate with colleagues on a European level in order to disseminate their expertise, exchange their experiences and address together the challenges encountered. We hope and expect that CLIL Prime will inform and inspire educators, researchers and academics so as to expand and build on its findings, outcomes and products. We would also like to hope that educational authorities on a European level will be better and more effectively informed about the linguistic, cognitive and cultural benefits of CLIL and willing to take serious initiatives for its dissemination and for the promotion of wider transnational collaborations.

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Chapter 2. Designing a scheme of work for CLIL lessons in a primary school

Designing a scheme of work for CLIL lessons in a primary school

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Abstract
This chapter outlines a way to plan a specific scheme of work within a curriculum utilizing CLIL methodology. It uses a course designed for a grade 4 history class in an international school in Italy as an example. The course was designed and taught during the Erasmus+ CLILprime project. It starts by reviewing the relevant literature, and then uses an example to demonstrate how to perform a needs analysis for the group of learners, as well as diagnostic testing for both content and language. It then describes how to decide course priorities based on findings, and how to select overall goals and objectives when designing the scheme of work. It takes into account institutional constraints, which need also to be considered when planning a course. It finally describes assessment methods that may be used in the CLIL context, and provides an example of what the resulting scheme of work looks like.

Keywords: CLIL, curriculum, history, assessment, schemes of work, needs analysis

1. Introduction
Designing a scheme of work, which follows a mandated curriculum can be challenging for teachers who are new to bilingual education in general, and to CLIL specifically. CLIL focuses on scaffolding both the language and the content. It includes communicative tasks, and makes use of both formative and summative assessment. CLIL supports language acquisition and development through content- and language-aware pedagogy. The focus on specific language chunks, which support the content can help learners access thinking skills (Coyle et al., 2010), hence develop cognition. As described in Bialik and Fadel (2015), a 21st century learning aim is to foster students’ critical thinking in expressing cognitively complex ideas about their world. Thus, CLIL is an excellent fit in a school system that aims to develop these skills in students. This chapter describes an example
Chapter 2. Designing a scheme of work for CLIL lessons in a primary school

of CLIL course design in the context of a history class for upper primary learners (aged 9-10) in Italy.

St Thomas’s is a small international school in central Italy. It was founded in 2010 as a primary school, and students are taught in both English and Italian, although the main language of instruction is English. Class sizes are typically very small, ranging from five students up to eighteen students. The school curriculum is based on Italian Ministry of Education requirements, but taught using an inquiry-based method. CLIL methodology works well in this situation as it provides learners with the necessary linguistic scaffolding needed to cope with the demands of the curriculum.

2. Background

Defined in 1994, CLIL refers to teaching specific subjects through a second language. Formalised in Europe, it draws on aspects of immersion programmes from Canada and Wales, amongst others. However, CLIL has existed for 5000 years – after the Akkadians conquered the Sumerians, they learned Sumerian by studying subjects through it. (Mehisto et al., 2008). Roman children were educated in Greek, to provide future social and professional opportunities (Coyle et al., 2010). Later still, and for many years, Latin was the language of education across Europe.

Cross and Gearon (2013) highlight that CLIL offers a pedagogical model adaptable to various educational contexts. Ioannou-Georgiou (2012) explains that, because content and language have dual importance in CLIL, one must consider general learning and language acquisition theories to fully understand key issues - it is this concept of integration, which presents the main implementation challenge.

2.1 Theories of Learning in CLIL

CLIL pedagogy draws on different strands of educational research, including social-constructivist perspectives on learning (eg. Vygotsky’s, 1978 ‘zone of proximal development’), Broadbent’s earlier work on human cognitive attention, demonstrating the complex nature of thinking (Broadbent, 1958), and Gardner’s Multiple Intelligences (Gardner, 1983). Bloom’s Taxonomy of Learning Domains (Bloom et al., 1956), a hierarchy of six thinking skills arranged from lower order thinking skills (LOTS) to higher order thinking skills (HOTS), provides a framework for developing cognitive skills. This was updated in 2001 to relate cognitive processes to instructional tasks, thus making the
Chapter 2. Designing a scheme of work for CLIL lessons in a primary school

taxonomy easier for class teachers to use (Anderson and Krathwohl, 2001). Implementing
CLIL in primary schools also acknowledges the connection between physical movement and
improved attention and cognition (Jensen, 2005), using physical activities such as mime, role
play, and action songs to build movement into lessons.

2.2 Language Acquisition Theories in CLIL

Age and cognitive development are key in second language (L2) acquisition, as
posited by the Critical Period Hypothesis (Lenneberg, 1967). Amount of exposure is another
mitigating factor (Lightbown and Spada, 2006). Although CLIL is not age-dependent, it does
provide increased L2 exposure, creating the environment for near-native acquisition when
begun early.

Krashen’s Natural Order Hypothesis (ibid) led to sequential teaching of grammatical
and lexical structures in standard textbooks. While language is not usually specifically
taught in the CLIL classroom, sometimes this will be needed. In CLIL, this ‘language of the
moment’ chosen to support content learning, subverts the discrete-item approach usually
found in the general English language classroom.

The social-cultural theory (SCT) that language development through social
interaction is central to human learning (Vygotsky, 1978) informs CLIL, engaging learners
in interactive, dialogic learning. The underlying 4Cs framework integrates Content,
Communication (language), Cognition, and Culture, so students learn to use language
correctly, while using language to learn effectively (Coyle, 2006).

2.3 Integration of Content and Language Assessment in CLIL

Reasons for assessment in the General English class for young learners are
manifold (Moon, 2005), but the focus is on language acquisition, not content-
understanding. Creating assessment procedures for CLIL is challenging because learning
objectives and success criteria for knowledge, competencies, and skills in both content and
language need to be integrated. To enhance cognition (the third C of the 4Cs framework),
students must also engage in meaningful self- and peer-assessments to reflect on their
progress and set personal learning goals.
2.4. Learning through CLIL

In foreign language classrooms, authenticity can be elusive. Language is the focus even when using relevant, authentic texts. Learners are usually assessed on grammatical and lexical knowledge, rather than communicative competence (Lightbown and Spada, 2006). When there is a focus on content, this tends to be informed by learners’ interests, rather than specific school subjects.

In CLIL classrooms, however, materials tend to be adapted versions of authentic materials. Research shows that students learning through CLIL programmes are more engaged than students in regular foreign language classes (Coyle et al., 2010), achieving better results in their L1 (Baker, 2006), and showing higher levels of cultural sensitivity (Lasagabaster and Sierra, 2009).

According to Munoz (2002:35), key reasons for CLIL’s positive learning outcomes are:

- meaningful, understandable input
- strengthened ability to process input, which eventually results in enhanced cognitive development
  - transfer of literacy skills from L1 to additional language(s)
  - relatively anxiety-free environment, which helps lower students’ affective filter
  - student motivation to learn content, which ultimately creates motivation to learn the necessary language.

3. Implications

The learning theories, language acquisition theories, and the need for a dual focus in CLIL classes described in the previous section lead to several implications when it comes to course design. They are as follows:

3.1 Cognitive challenge

It is challenging for young students to develop thinking skills, knowledge, and content-understanding in a non-native language. In order to facilitate the procedure and support learners, CLIL teachers need to provide:

- Appropriate scaffolding for content- and language-learning;
- Learning activities which build on students’ prior knowledge, skills, and attitudes;
Chapter 2. Designing a scheme of work for CLIL lessons in a primary school

- Opportunities for students to develop LOTS, HOTS, and Cognitive Academic Language Proficiency (CALP) (Cummins, 1979);
- Strategies which address a range of intelligences and learning styles (Gardner, 1983; Fisher, 2005).

3.2 Focus on Communication

CLIL promotes collaborative learning and dialogic teaching (Coyle et al., 2010). Learning activities must:

- promote quality teacher-learner and learner-learner discourse, to improve Basic Interpersonal Communication Skills (BICS) (Cummins, 1979);
- expose students to subject-specific vocabulary, grammatical structures and functional expressions, known as content-obligatory language (Snow et al., 1989), and give them opportunities to use them in discourse;
- provide opportunities for students to use non-subject specific content-compatible language (ibid) when engaged in communicative activities.

3.3 Choice of content and materials

The choice of content in CLIL is context-dependent. It can be drawn from national curriculums, be thematic, cross-curricular, or interdisciplinary (Coyle et al., 2010). CLIL creates opportunities for learners to put L2 knowledge into practice, if the materials are engaging and authentic; it also creates plentiful opportunities to develop communicative competencies through tasks, which are cognitively challenging.

3.4 Choice of Formative and Summative Assessment Tools

To be useful and successful, assessment processes must provide reliable information, therefore, they must:

- be transparent to teachers, learners, and stakeholders;
- directly address expected content and language outcomes;
- have a balanced focus, or weigh to the side of prioritized objectives.

A clear set of criteria must be selected or designed. Here the teacher must choose where to place emphasis, whether on content or language, using knowledge of students’ current understanding to move learning forward. Using a variety of assessment tools and clear criteria provides an integrated picture of student achievement, including CALP, BICS,
content-obligatory, and content-compatible language. Students must also have time to reflect on learning to be successful (Fisher, 2005).

3.5 Stakeholders

Parents are stakeholders because their involvement and support are essential for successful implementation in primary CLIL programmes (Mehisto, 2007, 2008; Massler, 2012; Cross and Gearon, 2013). As in any course with minors as students, parents-stakeholders must be regularly informed of progress. This can be done through various tools, for example, blogs and newsletters.

3.6 Recap

Bearing in mind the above, when designing a scheme of work for CLIL lessons, the following implications for needs analysis, diagnostic testing, and lesson design must be considered:

- Cognition - learning and thinking processes with a clear understanding of the young learners’ cognitive levels;
- Choice of content and corresponding communicative activities;
- Integration of content and language objectives;
- Assessment processes with clear criteria relating to integrated objectives;
- Awareness of stakeholder expectations.

The following part of this chapter outlines the process of designing a scheme of work in a primary classroom using CLIL to teach history, thus providing an example of the issues discussed above. The process is described from the initial diagnostic testing of the students, the choice of content and corresponding activities with appropriate cognitive challenge, the selection of objectives which allow for the integration of content and language, through to the assessment tools selected, and ways to acknowledge and address stakeholder expectations.

4. Needs Analysis

A scheme of work process should start with a needs analysis of the population in question which in our case are the learners in the class. What is more, before examining their learners’ needs through various means (observation, questionnaires and so on) teachers may start by making a short class profile based on their existing knowledge of their learners. This serves the purpose of providing a broader picture of the whole class regarding its population
and more specifically their L1 background, age, class size, gender, level of language, and so on.

4.1 Class profile

<table>
<thead>
<tr>
<th>Table 1: Class profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td>Class size</td>
</tr>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>Level</td>
</tr>
<tr>
<td>Education</td>
</tr>
<tr>
<td>Course</td>
</tr>
</tbody>
</table>

The class teacher in our example of a History class was both the English and History teacher. Based on previous formative and summative assessments (from both the 2018-2019 academic year and previous years), the learners were known to have a strong receptive understanding of English, but some lacks were apparent in production in terms of both fluency and accuracy.

4.2 Overview

Students’ needs, wants and lacks (Hutchinson and Waters, 1987) need to be diagnosed through both subjective and objective means (Nunan, 1988), and analysed from a linguistic and content perspective due to the fact that this is a CLIL course (Ruiz-Garrido, and Fortanet-Gómez, 2009). Student needs are paramount when designing learner-centred, communicative courses. Linking these needs to course aims, classroom practice, and assessment schemes creates the course framework (Seedhouse, 1995). Teacher-perceived and parents-as-stakeholders-perceived needs also need to be considered (West, 1994).

Students’ attitudes towards learning and language, their preferred learning styles and their perceived current performance and needs formed the basis of the linguistic needs analysis.

To decide on the content requirements, Munby’s (1978) target situation analysis (outlined in Hutchinson and Waters, 1987) was used, analysing both the history syllabus requirements set by the Italian Ministry of Education, University and Research, henceforth
MIUR, (Appendix⁵) and students’ prior knowledge of the content before the implementation of the program.

To enable triangulation of the needs analysis (Richards, 2001) multiple data sources were used:

1. Learners’ attitudes towards English, and felt social and academic needs for English (subjective data)
2. The linguistic needs and lacks perceived by learners, to contrast with the diagnostic test (objective data)
3. Learning styles
4. Parent-stakeholders’ perceived needs
5. Italian Ministry of Education requirements
6. Students’ current content knowledge

4.2.1 Procedures

To collect data sets N1, N2 (through three tests - a/b/c) the teacher used a kinaesthetic activity, divided into three parts, addressing young learners’ need for movement while learning. (Montessori, 1966). Other tools were used for N3-N6.

| N1 + N2a | Dichotomous statements (Appendix 3a) |
| N2b      | Quadrants (Appendix 3b) |
| N2c      | Dichotomous statements (Appendix 3c) |
| N3       | An online multiple intelligences questionnaire (BGfl, Multiple Intelligences: 2002) to discover the range and strengths of various intelligences/learning styles in the class. (Appendix 4) |
| N4       | Parent-stakeholder perceived needs questionnaire. (Appendix 5a) |
| N5       | Italian Ministry of Education learning objectives for primary schools (MIUR: 2012). (Appendix 1) |
| N6       | K-W-L (Know, Want to Know, Learnt) chart to assess content knowledge and interest. (Appendix 6a) |

4.2.2 Results

Just over half of the students used English outside of school, for example, to watch television, listen to music, or interact with English-speaking friends and family. All showed

⁵ The reader can find all the appendices of the current chapter following the link: http://bit.ly/2OHXUrm
positive attitudes towards English, enjoying various receptive and productive activities (N1). All expressed a need for more extensive grammatical and lexical knowledge. The majority felt more confident in speaking than writing, and better at reading than listening (N2a/b/c). These results reflect the fact that those students had been immersed in English through bilingual education since the age of three. In addition, the teacher had been emphasising reading as a skill, and the students were involved in an extensive reading program.

Based on the Multiple Intelligences survey, students demonstrated a range of styles. Table 3 shows the results, and particular activities, which were used in the course to address the learning styles found in class.

Table 3: Learning styles and suitable activities

<table>
<thead>
<tr>
<th>Learning style</th>
<th>Suitable activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpersonal, visual/spatial, and naturalistic</td>
<td>Collaborative tasks and activities which encourage observation, comparisons, and</td>
</tr>
<tr>
<td>learners predominate.</td>
<td>inquiry (Fisher, 2005).</td>
</tr>
<tr>
<td>Logical-analytical and intrapersonal intelligences ranked highly.</td>
<td>Activities that employ analysis and reflection on learning (metacognition), included to develop learners’ higher order thinking skills (HOTS)</td>
</tr>
</tbody>
</table>

Parents expressed satisfaction with students’ existing content knowledge. They requested more work on language competencies, which is not surprising, given the challenge of integrating language and content expectations. All of them stated that their child needed to use English outside school for socialising (BICS) (not confirmed by N1 - Learners’ attitudes towards English, and felt social and academic needs for English) and that English was important for their child’s future studies and profession. Parents felt well-informed of their children’s learning progress. (N4).

Content goals and objectives for this course were informed by Ministerial requirements for this age group/academic year (Appendix 2), and student questions arising from the KWL Chart (Appendix 6b), as well as teacher observations of student dialogue, which allowed the teacher to balance state mandates with learner interests.

4.3 Rationale for Diagnostic Tests

Developmental factors related to learners’ young age and their cognitive maturity are expected to affect the level of their language proficiency. CEFR B1 is the highest perceived
level possible (Hasselgreen, 2015). Given the indirect nature of language teaching in an immersive language environment, these students’ language proficiency level according to CEFR was difficult to assess. For the same reason, standard tests such as Flyers or PET lacked face validity for these students. Different assessment tools were needed. The teacher therefore analysed students’ written and spoken samples against the English Profile for Vocabulary and Grammar (http://vocabulary.englishprofile.org/staticfiles/about.html) (Appendix 7) and created a content-related listening test to diagnose listening skills (see Appendix 8a/b/c/d). Results showed jagged profiles – different levels of proficiency across the four skills (for an explanation of jagged profiles, see https://education.gov.scot/improvement/Documents/cdl24-ESOL-Initial-Assessment-main-pack.pdf, page 15). Students’ answers to N2a/b/c tests showed that they were aware of this. They also shared some common lacks and errors.

4.3.1 Results of Diagnostic Tests
The results of the diagnostic tests provided information as to the language areas/objectives the teacher needed to focus on. Table 4 provides a summary of the results.

<table>
<thead>
<tr>
<th>Language Skills/Competencies</th>
<th>Results</th>
</tr>
</thead>
</table>
| Writing                      | Weaknesses and/or inconsistencies in:  
  ● complex verb tenses and forms;  
  ● conjunctions  
  ● prepositions  
  ● complex sentence structure |
| Speaking                     | Confident English communicators with:  
  ● some fossilized errors  
  ● unnecessary code-switching |
| Reading                      | ● Regularly read in English for pleasure  
  ● Tackle high-level age-appropriate novels with confidence  
  ● Confident approach to non-fiction texts |
| Listening                    | ● Well-developed listening skills  
  ● Ability to listen for specific information, gist, and detailed understanding |
4.3.2 Lacks

The Needs Analysis (NA) and Diagnostic Testing (DT) showed that learners needed input in terms of grammar (moving them from B1.1 to B1.2/B2 on the CEFR scale), and lexis (expanding both their content-specific and content-compatible vocabulary). They also needed guidance to improve their academic writing, in the areas of register, complex conjunctions, and genre. Lastly, they also needed specific content knowledge about the ancient Egyptian civilization.

4.4 Course Priorities based on Needs Analysis and Diagnostic Test Findings

The content (Ancient Egypt) was the main focus, due to student interest, parental expectations, and institutional constraints. The diagnostic test results led us to prioritise:

<table>
<thead>
<tr>
<th>Priority</th>
<th>Course priorities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Developing content-obligatory language (expressing cause and effect; specific lexis)</td>
</tr>
<tr>
<td>2</td>
<td>Improving content-compatible language (prepositions, narrative tenses, comparative and superlative forms).</td>
</tr>
<tr>
<td>3</td>
<td>Improving writing ability - cohesion, organization, complex sentences, and historical genre</td>
</tr>
<tr>
<td>4</td>
<td>Developing factual knowledge of the ancient Egyptians</td>
</tr>
</tbody>
</table>

5. Course Outline

After completing the analysis outlined in the previous sections, the teacher has a clear idea of the needs of the learners, as well as contextual constraints. Following is a description of the process used by the teacher to create the unit of study “Ancient Egyptians” based on her analysis. The full course can be found in Appendix 1.

5.1 Syllabus design

As the school is bilingual, the course presented in this chapter used the content-driven hard model of CLIL (Šulistová, 2013). Being aimed at young learners, the course had to be holistic, and as Aristov and Haudeck (2013) state, action-based and process-oriented, with learners converting ‘hands-on learning’ into ‘minds-on understanding’
Chapter 2. Designing a scheme of work for CLIL lessons in a primary school

through speaking and writing processes (Webb, 2010, p. 448). Children would LEARN language, learn ABOUT language, and learn THROUGH language by participating in meaningful language events (Halliday, 1985). CLIL informed the methodological conceptualization of the course in the choice of materials, the learning activities, (both individual and collaborative tasks), the use of specific content and language scaffolding in order to promote cognition, the choice of formative and summative assessment tools. These choices were based on the results of the Needs Analysis (NA) and Diagnostic Testing (DT), presented in 4.2.2 and 4.3.1 above.

5.2 Goals and Objectives

Once NA/DT results were collected, and priorities selected, the teacher used them to create a set of goals outlining the rationale for teaching and learning (Nunan, 1988). These goals allowed the teacher to decide on the specific objectives required to achieve these goals (Graves, 2000).

When setting goals in CLIL, there are four steps to consider, drawing on the aforementioned 4Cs Framework:
1) Content: what new knowledge will the students acquire?
2) Communication:
   (a) language of learning: what genres and lexis does this subject use?
   (b) language for learning: what kind of language do learners need to communicate effectively?
   (c) language through learning: How can we capitalize on language that emerges through the learning process?
3) Cognition: which cognitive skills seem most appropriate for development, with reference to content?
4) Culture: How can we make connections with the wider world on a personal and global level?

To ensure that students meet curriculum targets, practice and extend both lower order thinking skills (LOTS) and higher order thinking skills (HOTS), and further develop basic interpersonal communication skills (BICS) and cognitive academic language proficiency (CALP), the following goals and objectives were chosen:

Goal 1(Content): Students should develop factual knowledge and understanding of Ancient Egypt in accordance with the MIUR requirements (Appendix 3).
Goal 2 (Communication): Students should develop language
(i) of description, definition, comparison, explanation, and hypothesis;
(ii) acquisition of appropriate grammar and lexis for writing about history;

Goal 3 (Cognition): Students should develop skills in research, organisation and presentation of content knowledge; engagement in higher-order thinking skills such as analysis, evaluation, and synthesis.

Goal 4 (Culture): Students should develop an understanding of connections between Ancient Egypt and Ancient Rome.

An overview of the course objectives per skill is also presented in Table 6 below.

<table>
<thead>
<tr>
<th>Language/ Skill</th>
<th>Objectives By the end of the course the learners will be better able to:</th>
<th>Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Skills</td>
<td>1a - organize information and knowledge, using pertinent themes and concepts (2.5.3)</td>
<td>G3, G2i, G2ii, G2iii</td>
</tr>
<tr>
<td></td>
<td>1b - recount learned facts and produce simple historical texts</td>
<td></td>
</tr>
<tr>
<td>2. Vocabulary</td>
<td>2a - Use subject-specific lexis to speak and write about historical events and people. (2.4.5b)</td>
<td>G1, G2ii</td>
</tr>
<tr>
<td>3. Grammar</td>
<td>3a - Apply procedural knowledge of grammatical items, e.g. past progressive, through language awareness tasks to aid fluency/complexity in spoken and written discourse. (2.4.5a)</td>
<td>G3, G2ii</td>
</tr>
<tr>
<td>4. Content</td>
<td>4a - use a timeline to organize information, periods, contemporaneous events, and duration in the context of Ancient Egypt. 4b - identify the relationships between human groups and spatial contexts (Egyptians and the Nile River) 4c - comprehend events, facts, and phenomena of Egyptian society and civilization which characterize the history of humankind.</td>
<td>G1, G2i, G2ii, G4</td>
</tr>
</tbody>
</table>

5.3 Content and Sequencing

The 22 hours of the course used as an example in this paper were part of a longer unit about ancient river civilizations, drawn from the mandated Italian national curriculum and adapted for CLIL. The content hours (see Timetable - Appendix 6) are supplemented and supported by English language lessons within the timetable: Language - analysing how
Chapter 2. Designing a scheme of work for CLIL lessons in a primary school

English works; and Literacy - helping students develop control over genres and linguistic structures in the history subject area (Coffin, 2006). There was half an hour each week for reflection and learning portfolios.

5.3.1 Materials

The main texts, Ancient Egypt from the Dorling Kindersley Eyewitness Books series, and the Usborne Encyclopedia of Ancient Egypt, were adapted through the use of glossaries, frontloading activities, and comprehension questions, due to their high linguistic load. The classroom library provided a range of books about Egypt for student use, and students were reminded and encouraged to use these throughout the unit.

Language materials included specifically selected tasks from grade 4 English Language Arts books, and teacher-created materials that allowed for more relevance and inclusion of content-based examples.

5.4 Teaching Approach

CLIL is a form of Content Based Instruction, drawing on Task Based Learning, principles of learner-centeredness, and activation (Llinares and Dalton-Puffer, 2015), resulting in an educational-linguistic approach, which does not focus exclusively on language acquisition. It is an inquiry-driven model, allowing students to build their own knowledge of content and language through reflection and engagement. Given the linguistic course goal and objectives of increasing the BICS and CALP of the students, the communicative approach is used to improve communicative competence. Harmer’s “ESA (Engage, Study, Activate)” (2008:67) comes into use when a focus on form is required, and Systemic Functional Linguistics (Halliday, 1994) assists the teacher as “… the Systemic Functional Grammar (SFG) model can reveal to teachers features of the discourse of their discipline.” (Whittaker, 2010:32).

5.4.1 Tasks and Activities

To ensure a balance between linguistic and cognitive demands, the CLIL Matrix (Appendix 9a) was used to audit tasks (Coyle et al., 2010). Coffin, an expert in subject-specific literacy, outlines the importance of the teaching of history in developing students’ ability to sequence past events and understand cause and effect. Students need to become familiar with, and be able to read and write, texts such as the historical recount genre (Coffin,
2006). The teacher used Martin’s 1999 model for teaching subject-specific literacy (Martin, 1999), which is still highly relevant. It is a model which leads students from dependence to independence through a series of guided activities (Appendix 9b). Tasks were expected to lead students to analyse sentence-level constructions and reference device strategies used in history texts, building their understanding of the genres used. Communicative tasks would involve jigsaw readings, role-plays, and small group projects, as well as teacher-student, and peer-to-peer dialogues (Appendix 9c), guided by the results of a study into task types in CLIL by Llinares and Dalton-Puffer (2015), who analysed students’ evaluative language and engagement while involved in the various tasks.

5.5 Institutional Constraints

Central to the process of course design, according to West (1994), is the consideration of the potential and constraints in institutional resources. In this course, in particular, such constraints were the following:

- Only one teacher was available for this course; she was both content and language specialist. This required careful planning on her part to ensure that content and language goals were met.
- Specific Italian Ministry of Education learning objectives had to be covered.
- Published materials covering required topics in English, while available, needed careful grading and adaptation to become linguistically accessible for the students; therefore they had to be carefully and systematically analysed.
- The school has laptops, which were used in class, albeit rather old. Seven students had tablets available. The school was trialling Microsoft Office 365 Education, an online virtual learning space. The classroom was equipped with an IWB and document camera.

6. Assessment Proposal

Any educational process, CLIL lessons included, should also use some form of assessment that will, among other things, provide valuable feedback on the process itself. To this end, the following subsections will (a) describe the principles that underlie our decision to choose specific forms of assessment, (b) present the assessment plan that we used for our example of the History course, (c) refer to a number of constraints that we encountered and describe also some opportunities presented, and (d) refer to the whole course evaluation.
6.1 Principles
Massler and Stotz (2013) recommend continuous, systematic assessment to benefit students and teachers. This regular assessment of students’ content and language knowledge informs future lessons. Thus, *formative* assessment takes place during a course, and is a combination of processes and tools which are used to improve the curriculum by offering ongoing feedback to both teachers and learners (Scriven, 1967; Wiliam, 2011).

Formative assessment can be formal (an ongoing portfolio of work; written quiz; feedback on writing with marks) or informal (teacher use of effective questioning techniques; samples of writing and speaking; performance assessment of collaborative work) (Bentley, 2010).

Summative Assessment occurs at specific times during a course, usually at the end, and is used to evaluate the overall achievement of the students, and thus, the effectiveness of the course (Graves, 2000). This information is used to inform involved stakeholders and influences the design of future courses. Summative assessment is often external, for example, nationwide standardised tests, and language tests such as Cambridge YLE tests.

When designing assessment, the teacher must also think about washback, which refers to the effect (negative or positive) that testing has on teaching or learning. This is an important consideration in course design because of the effect it can have on teaching methods. Messick (1996) suggests that in order to have positive washback, tests should include authentic and direct samples of communicative skills.

Effective assessment should have validity (measuring what it purports to measure), and reliability (giving consistent results). Face validity is also important when assessing young learners. They are experts in ‘doing school’ and know what tests ‘should’ look like.

6.2 Assessment Plan
The assessment plan for this course addressed both content and language and considered the following factors:
- The necessity of minimizing the effect of LANGUAGE when CONTENT was being assessed.
- LANGUAGE had to be assessed for accuracy, appropriacy of genre, and communicative competence.
- Clear learning objectives and success criteria had to be communicated to/negotiated with the students.
A mix of informal and formal tools had to be used, including task-based and can-do criteria.

Marking rubrics had to be shared and/or developed with the students, to ensure transparency in the teaching-learning process.

The teacher had to ensure ample use of meta-cognitive tools, such as reflection and portfolio creation.

6.2.1 Formative Assessment Tools

The following tools were used to assess how well learners were meeting assessment criteria and learning outcomes.

**Sticky note observations:** The teacher kept an observation notebook for the class, and monitored group and individual activities, keeping observation notes using sticky notes. After class, these sticky notes were placed in the observation notebook in the appropriate student section, and the data collected was used to adjust instruction, in order to meet student needs.

**Parking Lot:** Students responded to reflection questions, placing them on numbered squares as they left the classroom.

**Language tasks:** Gap-filling, sentence transformation, sentence completion, and cloze activities were used to monitor and assess accuracy of form.

**Content tasks:** Matching information, labelling maps, and completing notes while watching a documentary were used to assess understanding of content.

**Literacy and Content tasks:** a historical biography about a pharaoh, and a written essay about an aspect of ancient Egyptian civilization were used to assess progress in the writing of history texts, as well as assessing understanding of content matter.

**Rubrics:** Students were made aware of success criteria through the use of rubrics when assessing written work and presentations. Students were also involved in the creation of these rubrics.

**Portfolio:** At the end of each week of the course, students had time to reflect on work, and select a piece/pieces of work to put into their learning portfolio. These pieces of work could represent a favourite piece, a strength, or a challenge, and students had to say why they had chosen a particular sample.

**Plenary:** A whole-class discussion at the end of a lesson served to monitor understanding, and correct misconceptions.
Chapter 2. Designing a scheme of work for CLIL lessons in a primary school

The outcomes of these graded formative assessments contributed 30% to the overall course grade.

6.2.2 Summative Assessment Tools

The following tools were used to assess how well learners had met learning outcomes both near the end of the course (week three of four), and at the end of the course.

- An oral test administered in the third week of the course assessed recall of subject-specific vocabulary, ability to effectively discuss main content points, and demonstrated student awareness of grammatical and lexical features of the language of history (35% of overall course grade)
- A written test was administered at the end of the course, to assess recall of content (35% of overall course grade).

6.3 Constraints and Opportunities

Throughout the course, formative assessment was used as a learning tool, as all feedback was used to adjust teaching to ensure student progress. The proposed methods foster enhanced cognition through self-analysis of errors, and development of BICS and CALP through communicative activities. Parent-stakeholder expectations of school mean that a specific grade should be given, as well as descriptive assessment. Students tended to pay attention to the grade, rather than to the comments of the descriptive feedback; therefore, when giving feedback, the teacher first gave them written feedback, and discussed this with students before providing final marks.

6.4 Course Evaluation

Coyle, Hood and Marsh (2010) provide a template for the evaluation of CLIL programmes. These include a range of performance evidence, affective evidence, process evidence, and materials and task evidence.

In the case of the course described in this chapter, performance evidence was provided through the use of oral and written tests, which are compatible with state methods and expectations. Affective evidence was provided through an end-of-course interview with individual students to provide qualitative information about motivation, anxiety levels, and attitudes. An analysis of students’ reflections and learning diaries provided further data. At the end of the unit of study, students carried out a complete reflection on their learning
Chapter 2. Designing a scheme of work for CLIL lessons in a primary school

throughout the course, which was used to triangulate findings. Process evidence was collected via teacher observation notes and transcripts of individual, and paired/group tasks. Finally, materials and task evidence was gathered through teacher analysis of the learning outcomes of specific materials and tasks, in order to improve their application for future courses.

All stake-holders naturally have expectations for success, and course results must be clearly communicated. Student performance during this course has lead to improvements in the course, by assessing where language and content gaps still remained, and working to address those gaps through additional activities for future iterations of the course.

7. Conclusion

Designing a scheme of work of a primary school CLIL lesson is a process that may take some time but is a necessary step for teachers and stakeholders. To better illustrate this process we used a CLIL History lesson as an example and through it we reflected upon a number of principles which influence CLIL course designs.

7.1 Reflection of principles which influence CLIL course design

The issues and implications addressed in Part 1, such as theories of learning and language acquisition, the dual focus of content and language in learning and assessment, the need to provide scaffolding to mitigate cognitive challenge, the inclusion of communicative tasks, the choice of content, material and assessment tools, and finally, the need to meet stakeholder expectations, all informed the course design. The motivation for designing this course was to create an example, which demonstrates how CLIL implementation in bilingual education can improve students’ language acquisition and development, while fostering their critical thinking. During the implementation of the course, there was evidence from learner reflection tasks and formative assessments that this approach increased student motivation, as well as enhanced their cognitive and language abilities, and deepened their understanding of content. Designing such a course was certainly challenging, especially the areas of material creation (in terms of pitching the content and language at a level which moved learning forward, but was not too challenging for learners) and the design of assessment tools which could isolate content from language assessment. Teachers who wish to design CLIL courses should be aware that these areas in particular need special consideration when planning to ensure successful outcomes for learners.
7.2 Limitations

This CLIL course was designed within the Erasmus+ CLILprime project, to meet the needs of a group of young learners at the B1/B2 Independent User CEFR English level studying history in a full immersion bilingual school. It needs further adaptation if it is to be implemented in a state school due to limited exposure to English as an L2, lack of subject teacher confidence in their own language ability, lack of class time available to dedicate to CLIL, and lack of access to appropriate materials. However, with modifications according to context and specific student needs, the course is transferable to other situations.

7.3 Benefits

The teacher reported that using the CLIL methodology increased learners’ awareness of, and attention to form in both speaking and writing, and their ability to create appropriate history texts was strengthened. This course, while focused on the teaching of history, could inform the creation of similar CLIL courses for the teaching of other subjects such as science, art, music, and geography as the tasks and assessment tools could be adapted to fit different content.

7.4 Looking forward

It is hoped that this paper will encourage teachers in different contexts to explore CLIL pedagogy, and to develop their own understanding and expertise in this approach. While needs analysis and diagnostic testing can seem daunting, especially with larger classes, the data obtained from these sources is invaluable when developing a scheme of work that is targeted towards a specific group of learners. Although this example was developed by one teacher only, CLIL course design is greatly enhanced when subject and language teachers collaborate to develop learning activities and assessment tools.

References


Chapter 2. Designing a scheme of work for CLIL lessons in a primary school


Chapter 2. Designing a scheme of work for CLIL lessons in a primary school


Chapter 2. Designing a scheme of work for CLIL lessons in a primary school


Chapter 2. Designing a scheme of work for CLIL lessons in a primary school

Chapter 3. Teaching Environmental Studies through CLIL to 4th grade learners in an urban area

Teaching Environmental Studies through CLIL to 4th grade learners in an urban area

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Abstract
Teaching Environmental Studies through CLIL to 4th graders at the 3rd Experimental Primary School of Evosmos presented the teacher with both challenges and opportunities. This paper aims to present the choices made by the teacher in order to address these challenges and benefit from the opportunities. Design of the syllabus, introduction of the scientific content, preparation of tasks and activities to provide the necessary scaffolding and practice for the young learners and make them develop their linguistic and cognitive skills required drawing on various methodological resources and tools. The samples given serve as an indication of a variety of teaching techniques used to teach the subject-specific concepts while integrating the element of culture in its dualistic form, that of the culture of science and that of the awareness of interdependency on environmental issues in an effort to build informed active citizenship.

Keywords: CLIL, environmental studies, ICT, project, 3rd Experimental Primary School of Evosmos

1. The context

This paper refers to the course of Environmental Studies taught through CLIL to learners at the fourth grade in the 3rd Experimental Primary School of Evosmos, in Greece, during the three-year Erasmus+ project CLILprime. The project aimed to promote CLIL implementation in Europe and engage the teachers of the participant organizations in a dialogue concerning best practices.

52
Chapter 3. Teaching Environmental Studies through CLIL to 4th grade learners in an urban area

Learners of the particular school go through extensive English language teaching from the first grade, involving five hours of English per week. This differs from all other state schools in the country which expose learners of the 1st and 2nd grade to one hour of English language teaching per week and three hours in the rest of the grades, i.e. 3rd to 6th. During the course of their studies, learners of the particular school take CLIL courses at different grades and subjects. During the implementation of the Erasmus+ CLILprime project learners of the fourth grade attended CLIL classes in either History or Environmental Studies while they were in the third grade.

The paper presents the challenges faced by the teacher, the choices made while designing the syllabus, the techniques adopted to meet the aims and objectives of the course and the outcomes as perceived both by learners and the teacher.

2. The challenges

The implementation of CLIL in every European context is designed along four parameters, namely those of content, cognition, communication and culture. (Coyle, 2008). Whereas content and cognition are straightforward, communication and culture need to be further defined. C-communication is defined by the language triptych and consists of language of, for and through learning (Coyle et al., 2010). The first, language of learning, is defined as the content-specific discourse necessary to deal with the particular discipline. The second, language for learning, deals with the language necessary to complete tasks and interact during the lesson. Language through learning is the language that emerges through the learning process. Culture in CLIL is two-fold. It encompasses both the 'culture' of the discipline, i.e. the specific genre used, and the social function it performs (Meyer et al., 2015) as well as the awareness of a dynamic interplay between self and others.

Opting to teach science, environmental studies in particular, through CLIL, to learners of the 4th grade of a primary school in an urban area presents the teacher with challenges at various levels.

At the level of cognitive demands set to learners, one needs to be conscious of the fact that learners of this age are at the threshold of abstract thinking. Therefore, they are not yet accustomed to cognitive processes that involve interpretation, classification, comparison, hypothesis, analysis, synthesis and evaluation of information, at a level that would allow them to adequately encode and process information in order to develop scientific reasoning. These processes require the acquisition of appropriate encoding strategies and “increased
Chapter 3. Teaching Environmental Studies through CLIL to 4th grade learners in an urban area

domain knowledge helps children assess more effectively what information is and is not necessary to encode” (Bradley et al., 2012: 63).

At the language level, one needs to consider the acquisition of subject-specific literacy and learners’ introduction to a different genre of both written and oral text that will expose them to cognitive discourse functions relevant to academic discourse. Coetzee-Lachmann (2007) refers to the development of subject-specific literacy as involving

"the development of learners' ability to use a specific register that is different from the registers embedded in the discourses of family life and interaction with friends ... [subject-specific literacy] is not only paramount to successful participation in the activities of school, but also forms the basis for active participation in all other forms of institutionalised discourses.” (Coetzee-Lachmann, 2007: 18)

Both challenges mentioned above are integrated in the pluriliteracies model. As Meyer et al. (2015) mention,

"pluriliteracies development results in the growing ability to ‘express/verbalise’ subject-specific concepts or conceptual knowledge in an appropriate style using the appropriate genre and genre moves for the specific purpose of the communication in a wide variety of modes. In other words, students make meaning by strengthening the connections between the conceptual continuum and the communication continuum.” (Meyer et al., 2015: 50)

Therefore, learners should be empowered to engage into subject-specific discourses along the communication continuum, ranging from informal to formal, in a variety of modes and in a genre appropriate for the specific domain. In other words, learners should become able to 'language' (Swain, 2006) subject-specific concepts. Unless this is achieved, progress in the discipline is limited. However, the level of sophistication of cognitive processes aimed at and the extent of exposure to scientific literacy should fit the young age of learners (Meyer et al., 2015).

Yet, Environmental Studies go beyond science and language. They are connected to our very survival on this planet. The issue of climate change that affects every species on the planet and takes its toll on the global economy has taken central stage in our everyday lives and in politics. Article 12 of the Paris Agreement (United Nations, 2015: 42) was the first article countries agreed on:
Chapter 3. Teaching Environmental Studies through CLIL to 4th grade learners in an urban area

"Parties shall cooperate in taking measures, as appropriate, to enhance climate change education, training, public awareness, public participation and public access to information, recognizing the importance of these steps with respect to enhancing actions under this Agreement."

After the Paris Agreement, UNESCO issued A Guide for Schools on Climate Action (Gibb, 2016) where teachers are urged to teach critical, creative and futures thinking skills along with empowering learners to take action in a whole-school approach.

The above aims set the context for designing a course that will help learners “acquire the knowledge, skills, values and attitudes that empower them to contribute to sustainable development and take informed decisions and responsible actions for environmental integrity” (UNESCO, 2013: 5). It is at this age when the foundations of thinking, knowing and acting are laid, and relationships, with others and with the environment, are formed. It is also a time for providing significant groundings for adult activism around environmental issues (Davis and Gibson 2006; Wells and Lekies 2006). Therefore, strong connections need to be built between knowledge and experience, between self and others. Where environmental education is concerned, the main focus is informed change of attitudes and the development of active citizens who will take responsibility concerning environmental issues.

One should also acknowledge the need to consider the general educational and cultural context in which teaching and learning take place. It has been a couple of decades since the educational stakeholders’ attention was drawn to the fact that “our students have changed radically” and that we are now teaching the “Digital Natives” (Prensky, 2001: 1-6), or the ’Net Generation’ students, a term first mentioned by Tapscott (1997). Although this generation of learners is not a homogenous group concerning their digital skills and their ability to use new technology tools (Jones et al., 2010; Margaryan et al., 2011; Jones and Binhui, 2011), they are learners who, in general, grow up surrounded by technology. As many researchers argue, technology has shaped, to a large extent, the way they learn and participate in the classroom (Oblinger, Oblingerand and Lippincott, 2005; Berk, 2009; Jones et al., 2010). Some of the characteristics of this generation of learners include the following:

- they are digitally literate, in the sense that they interact with technology on a regular basis and feel comfortable using it,
- they expect immediate responses on any matter of their concern from technology
- they are social, sharing information on the web and interact with each other
- they prefer to learn and work in teams
Chapter 3. Teaching Environmental Studies through CLIL to 4th grade learners in an urban area

- they prefer structure to ambiguity
- they prefer using interactive materials
- they are visual and kinesthetic, preferring short texts, rich in graphic layout
- they are interested in community and world problems and believe science and technology can offer solutions (Oblinger and Oblinger, 2005: 17-19)

Based on the above characteristics, the most popular suggestion made to engage this generation of learners is the use of various web 2.0 tools in the classroom (Oblinger and Oblinger, 2005; Agazio and Buckley, 2009; Merlino and Rhodes, 2012).

The need for developing digital competence has also been acknowledged by the European Union, as contributing “to the development of quality, future-oriented education and training tailored to the needs of European society” (European Union, 2006: 12) and it is included in the 8 key competences the European Union suggests that all Europeans should acquire. In the same journal, digital competence is defined as involving “the confident and critical use of Information Society Technology (IST) for work, leisure and communication. It is underpinned by basic skills in ICT, i.e. the use of computers to retrieve, store, produce, present and exchange information, and to communicate and participate in collaborative networks via the Internet” (ibid.: 15). Therefore, the development of digital literacy is also a factor to seriously consider when a course is designed.

3. The syllabus outline

Setting the aim to teach Environmental Studies at the 4th grade required making certain choices at the outset of the course. The primary one concerned the outline of the content of the syllabus. The National Curriculum concerning the particular school subject aims at a wide range of themes, varying from Greek topography, to ecosystems, to communication means, to the human body, and many more. It was deemed necessary that learners develop the four Cs (Coyle et al., 2010) in a particular scientific domain so that ample time was given to develop subject-specific literacy. However, covering all these themes would have led to a rather superficial and fragmented teaching of those thematic areas and consequently would have prevented a more in-depth development of both ‘language of’ and ‘for learning’. It would also have prevented the development of awareness of culture at a micro- and macro-level in a particular domain, i.e. the individual, local conditions and the global aspects and interconnections. Therefore, the first choice needed to be made was the selection of particular themes of the syllabus to be delivered through CLIL, whereas
Chapter 3. Teaching Environmental Studies through CLIL to 4th grade learners in an urban area

remaining themes would be delivered by the classroom teacher in Greek (learners’ native language). As a result of this decision, out of the three hours specified by the Ministry of Education for Environmental Studies, two were delivered through CLIL by the English language teacher and one hour was taught by their classroom teacher.

As for the thematic areas of the syllabus taught through CLIL, it was decided that these would refer mainly to ecosystems and, secondarily, via teaching techniques and hands-on learning experience, to the chapter concerning means of communication. This would allow for a more in-depth study of ecology and environmental issues and provide ample time for learners to investigate environmental issues, as indeed was the case.

Special note should be made here concerning the context of teaching. The particular subject-specific discourse and vocabulary delivered via CLIL at this subject is either unknown to learners of this age or at the threshold of development, since they possess certain schematic knowledge in this field but lack appropriate subject literacy even in their native language. Learning about concepts such as biomes, mammals and sustainability, to mention but a few, and talking about classification or processes might sound quite challenging. One should also keep in mind that learners of this age are equally unfamiliar with the equivalent scientific vocabulary in their native language. This, however, turns the difficulty into an advantage for the CLIL teacher. In particular, since learners have not yet acquired the specific scientific concepts in their native language, concept mapping would be coded from the very beginning into the foreign language (English, in this case), resembling, therefore, concept acquisition in one’s native language. This means that learners have no recourse to translation equivalences between English and their native language, which often leads to confusion and interlingual interference. Almost by default, such a condition seems ideal for the application of the Communicative Approach, since information delivered serves real purposes and is meaningful, and avoids the pitfalls of a grammar-centered approach while, at the same time, allows for the emergence of syntactic structures that appear in more scientific genres.

Defining the content determined to a large degree the elements of communication and cognition that would mostly be aimed at. Concerning the parameter of communication, the selection of the particular chapter on ecosystems would, offer a wider area of opportunities to expose learners to subject-specific vocabulary and to a different genre of text, namely that of scientific discourse. Exposure to this kind of genre, almost by default, requires exposure to discourse features characteristic of this discipline: analysing, classifying, justifying, explaining, reporting, debating.
Chapter 3. Teaching Environmental Studies through CLIL to 4th grade learners in an urban area

Exposure to this genre and the discourse functions it entails sets the linguistic foundations for the cognitive processes learners are asked to develop during a CLIL course in science, such as understanding through comparing, analyzing, synthesizing, classifying and evaluating information.

In addition, the choice of the particular thematic area enhances the development of cultural awareness, both at its micro- and macro- level, since teaching about the environment, its organization and problems allows the development of a global civil conscience and humanistic values, along with an encouragement for shared responsibility and active citizenship. Additionally, as Morton (2010: 83) points out “in the case of learning academic subjects, including in CLIL contexts, an important aspect of ‘culture’ is that of the discipline being studied”.

As Meyer et al. (2015: 51) summarise it all, bridging the 4Cs framework with the pluriliteracies model

"[t]o actively construct knowledge and to promote subject-specific literacies, learners need to conceptualise content in ways that are appropriate to the subject C-Culture. As has been discussed previously, it is this subject C-Culture that determines how the C-Cognition is put to use in the way that C-Content will be conceptualised and how the C-Communication is used to (co-)construct knowledge."

4. Teaching techniques, materials and ICT tools used

The teacher's main concern was to trigger learners' engagement. To accomplish such a task, one needs to consider elements that will motivate learners of this age enough to help them become involved in the teaching process. In addition, proper scaffolding should be provided to make them feel confident to operate in the new learning context. In fact, these elements needed to be present at all stages of the learning process. In addition, materials and tasks should be differentiated enough to cater for different learning styles and skills, both in the foreign language and in the cognitive demands set.

YouTube videos were considered an appropriate tool to use in order to introduce the new concepts and attract young learners' interest. It was also believed that they could bridge the gap between our urban environment and the natural world, which learners could not have easy access to. As a result, experiential teaching could only be applied to a certain extent. Berk (2009) argues that videos can have a strong effect on learners’ mind and senses and lists
Chapter 3. Teaching Environmental Studies through CLIL to 4th grade learners in an urban area

twenty potential learning outcomes among which are that they can grab learners' attention and help them focus their concentration, generate interest, draw on learners' imagination, improve attitudes toward content and learning, increase memory of content, increase understanding, stimulate the flow of ideas, inspire and motivate learners, decrease anxiety and tension. Indeed, the multimodality of the particular input proved invaluable in helping learners comprehend the material in a more holistic way. In addition, the novelty of using YouTube videos to introduce scientific concepts in comparison to textbooks used in other subjects enhanced motivation and engagement with the content. The reader can witness the difference of approach by watching the video used for a lesson on bees clicking the link https://www.youtube.com/watch?v=sSk_ev1eZec.

However attractive and engaging videos are, and despite the support that such multimodal input provides to the understanding of the input, they need to be supplemented with appropriate tasks and activities that will provide further necessary scaffolding that will allow learners to analyze, discuss, evaluate and research the new information. These are often provided through accompanying worksheets and projects.

Worksheets helped learners with note-taking during video reproduction, and also provided consolidation of new information through a variety of activities in an effort to cater for all learner preferences and learning styles. They also served as reference for later use. Activities varied from true/false statements and information gap activities to drawing, which required students to transform abstract definitions into concrete, real-life examples, to giving definitions, to discovering connections between concepts, or even expressing preferences. An example is given in the appendix.

Apart from the worksheets, learners were also asked to use web 2.0 tools to perform activities. Different tools required the use of different cognitive and language skills. Since, according to the characteristics of this generation of learners, “they prefer games to ‘serious’ work” (Prensky, 2001:2), comprehension and further practice were reinforced through computer games that added a playful element in the process. These games included online crosswords, matching activities, texts with missing elements, quizzes, diagrams, and so on, together with activities following the format of well-known games, such as pacman and jeopardy or TV games such as `who wants to be a millionaire’. The wide variability of games catered not only for different levels of cognition but also for different graphics and formats to prevent boredom and maintain interest and the element of fun and excitement. The online element presented learners with immediate feedback and gratification, factors that are
important both for the net-generation as well as for learners of this age. In addition, these games could be played at home as well, providing learners with adequate privacy that allowed them to try over and again in their effort to acquire the new information, sparing them exposure in case of mistakes. The reader is invited to visit the following links to view samples of the games used:

(a) http://www.classtools.net/arcade/201510_ekPHJS (click on pacman),
(interactive (c) image of flower parts),
(crossword on parts of plants),
(e) http://www.superteachertools.us/millionaire/millionaire.php?gamefile=58884
("millionaire" quiz),
(f) http://www.cram.com/flashcards/games/jewel/revision-d-8576322 (revision game).

Learners showed great enthusiasm and involvement while playing the games. This aligns with findings from literature that support games as a means of increasing learners’ intrinsic motivation (Deci et al. 1999; Kang and Tan 2014). However, even if one supports the view that games are a tool to increase extrinsic motivation, Ryan and Deci (2000: 54-67) have noted that self-determined learner behavior can stem from both intrinsic motivation and from extrinsic motivation that they termed 'integrated regulation'.

Practicing and revising were very well served by web2 tools as was the development of classification skills when learners used the popplet application to create their own mind maps in their effort to classify ecosystem factors. The mind map allowed learners to denote concepts and links indicating relationships among concepts (Nesbit and Adesope, 2006). Proper encoding of information needed to have preceded their transfer to such a graphic organizer. The digital element allowed learners to develop their digital skills as well and make their mind maps more interesting by adding color and images, a feature they discovered themselves while exploring the platform and working on their maps. This last feature was indeed used by some learners. The reader can view learners' efforts following this link: https://padlet.com/ziakaioa/myproject. It is worth noting that these graphic organizers were used by learners as springboards not only to discuss the relevant concepts but also to present information and raise all students’ awareness of the environmental issues on the World Water Day, March 22nd.
Chapter 3. Teaching Environmental Studies through CLIL to 4th grade learners in an urban area

To develop their research, writing and social skills, learners were asked to work in groups, do their own research on the internet and create PowerPoint presentations on various aspects of the concepts under examination. Such a writing task encourages active learning and an introduction to a different genre of text. During the last year of the Erasmus+ project CLILprime learners created PowerPoint presentations on endangered species and insects. They subsequently uploaded and published their work on an electronic notice board (padlet) for their classmates to read.

Publishing learners' work is an opportunity for them to receive peer feedback, encourages good writing habits, as it promotes editing one's work before it is made public, and boosts learners’ motivation and self esteem as they feel proud of their work once this is online. This was very clear even with learners of this age who felt really proud once their work was online on the padlet (address above).

Learners also used collaborative tools to work together and produce stories. During the last year of the CLILprime project learners used the Storyjumper platform to produce stories concerning environmental issues previously presented and discussed in class. The reader can find examples of these stories following the links:

https://www.storyjumper.com/book/index/70744685/SUSTAINABILITY#page/18
https://www.storyjumper.com/book/index/70744885/THE-ECOLOGICALS-

FOOTPRINTS

These stories are good examples of 'languaging' science. Working both on the text, including the new subject specific vocabulary, and adding the illustrations, however limited in the free accounts, gave learners the possibility to transfer their learning into a different medium and use a different mode than that of the video where the spatial mode predominates. At the same time, this activity presented an outlet for their creativity and an opportunity to express themselves on issues that impressed them or concerned them the most. The enthusiasm of the learners when shown the platform and while creating their stories was evident from their comments and the effort they put in producing their digital 'books'. Indeed, there was a learner who actually said that she had decided to become a writer.

According to the Survey of Schools: ICT in education, which was commissioned in 2011 by the European Commission Directorate General Communications Networks, Content and Technology,

"students are more confident in their digital competences when they have high access to/use of ICT at home AND at school compared to students having low
access/use at school and high access/use at home, or low access/use at both places. 

... Such students, having high access/use to ICT at home AND at school, are defined in the Survey as digitally confident and supportive students.” (European Commission, 2013: 15)

None of the digital tools mentioned above would have worked well if the learners had not been provided with 24/7 online access to all materials available to them. This was possible through a website built for the purposes of the course. The site offered unlimited access to all videos and games at learners' convenience. The ability to practice the new concepts in the privacy of their own space and at their convenience before playing some of them in class, the help provided by the software in their effort to play the games, along with the immediacy and privacy of computer feedback, helped maintain learners' level of interest and engagement high, kept anxiety levels low and aided retention of new knowledge while learners were engaged in playful activities.

A final element concerning digital tools that should not be left out is the use of an Xbox game. Learners played the game Zoo Tycoon and, although it is a game about running a successful zoo, a controversial concept, it nevertheless created a strong affection for animals among them. The use of the Xbox gave learners the possibility to interact with animals and take care of them in an immersive environment. At the same time, it gave their motor skills a workout. The use of "serious games" is the focus of significant research, especially in the last decade. The benefits of the immersive environment of these games for learners have been reported by several researchers (Prensky, 2001; Squire, 2005a; Squire, 2005b; Groh, 2012; Kapp, 2012). Of course there are also those who question their use in education (Apple, 1991; Morrisett, 1996; Marczewski, 2015). The debate is ongoing.

An extra issue that had not been planned for and that was raised in class with the use of the Xbox game, was that of entrepreneurship, an issue largely promoted in European countries but totally barred in Greek school curricula. While playing and 'building' their zoo, learners had to take into account facilities for their guests, a feature that added fame to it and unlocked more animals they could interact with. Therefore, the element of the audience-clients of a business was also part of their considerations.

As it is obvious from all the above, learners were required to use their computers and the internet to fulfill course requirements, building on their digital skills and gradually developing their digital competence, along with other competences. The tools used acted as stepping stones towards helping them become “capable of collaborating, solving problems
Chapter 3. Teaching Environmental Studies through CLIL to 4th grade learners in an urban area

and being creative in the use of digital technologies. In a growing technological world, these skills become part of their citizenship training to participate in the digital society where they will live” (UNESCO, 2019: 19)

Concerning digital tools, however, one final note needs to be added. As the reader may have noticed, no online communication platform was used during the course, so learners could not communicate online with each other. An attempt to use some form of communication with the teacher was tried with the use of a platform that offers the possibility to upload videos and games in thematic playlists, as well as assignments. Learners were given their assignments online and had to deliver them online as well. Communication with the teacher was possible, but not among them. No leaderboard was added either, for fear of competition among the learners. The platform was useful as a means of introduction to online communication and the learners rated it very high in their preferences among tools used during the course. Yet, learners complained about the lack of communication with each other. However, the teacher chose not to use an online communication platform at this stage, mainly because learners’ foreign language skills were rather limited and communication in the foreign language would be restricted. In addition, since the native language was not used during the lessons, the teacher thought it should not be encouraged for the communication through such a platform.

Learners of the 4th grade are taught Geography through CLIL by the same teacher in the fifth and sixth grade and as their language skills develop so does their freedom within the lessons. They are introduced to the edmodo platform, so communication among all members of the class is unencumbered. They are also gradually introduced to taking ownership of the syllabus by becoming responsible for researching, presenting and evaluating information. They are exposed to online updated information, not only from Greek and European organizations but from news channels, such as the BBC and the Al Jazeera, as well, so that their intercultural skills and empathy can develop. They are given the freedom to create end products of their own choice in their areas of research. As they ascend the ladder of cognitive, linguistic and digital skills, so their independence and ability to make decisions and take action increase. The design of the course in the 5th and 6th grades, however, is not the object of this paper and indeed deserves a chapter of its own. The reason it is mentioned here is to show the reader that a carefully designed course uses stepping stones to develop learners’ pluriliteracies and multiliteracies (The New London Group, 2000: 9-37) and lead them towards more self-directed learning and autonomy.

63
Chapter 3. Teaching Environmental Studies through CLIL to 4th grade learners in an urban area

5. Tasks and projects

Apart from all the digital tools, the course made extensive use of hands-on activities and materials. A microscope was brought into the classroom for learners to observe the parts of flowers. Learners also dissected flowers to create posters of their parts. Bean and lentil seeds were planted and their sprouting parts observed. An effort was made to plant flower seeds but was to a large extent unsuccessful, giving rise, however, to jokes about people who do not ‘have green fingers’.

The initial planning of the syllabus was outlined in such a way as to give time for project work. During the course of the Erasmus+ project learners researched several issues of their own interest, varying from year to year. These involved personal daily habits, such as recycling, endangered animal species, the use of plastic bottles, plastic bags in supermarkets, the use of energy and water. The projects were carried out in two phases. First, learners searched the internet for information concerning these major problems and their impact on the planet. Whenever possible, research was followed by study visits to relevant places of interest. Concerning the issue of endangered species, for example, learners visited a Greek nongovernmental environmental organization that protects bears and wolves (Arcturos) to receive more information. For their water project, they visited a center of environmental education near a lake to get proper and hands-on information. During their visit at the center they were given several micro-organisms that live in the lake which they had to observe and classify.

Research conducted via the web was quite extensive. Thus, concerning the use of water, they examined how sources of water, such as rivers, were managed by other European countries. They even used interactive European resources to research the condition of bodies of water in Europe. The collection of information led to learners creating small posters per European country advising the audience on clean and dirty bathing waters. Concerning the use of energy, the learners were informed about renewable sources of energy, the EU targets concerning energy and, using Eurostat statistics, they were informed about the use of alternative sources of energy in other European countries and compared them to data about their own country.

Since one of the aims set at the outset of the course referred to active citizenship and the change of learner attitudes, the element of culture and intercultural relations that is evident in the projects was further exploited. Every project learners worked on involved the study and record of their own daily habits as well: how many plastic bottles they used daily,
Chapter 3. Teaching Environmental Studies through CLIL to 4th grade learners in an urban area

how many plastic bags they used, how many energy saving bulbs they had in their own homes, what kind of spray bottles they used, how they used water. After the collection of data from their own environments, and following discussions in class, learners took decisions they acted on. Some of these were:

- They cleaned a park near the school;
- They stopped using plastic bottles of single use and decided to use water bottles at school. They also organized a presentation for the students of the school concerning water and its proper use. On that occasion they invited the quality manager of a Greek bottled water industry as an invited speaker as well;
- They created their own shopping bags from old clothes and umbrellas to use in supermarkets;
- They prompted their parents to change traditional incandescent bulbs to energy efficient ones in their houses. They also advised their parents against purchase of products sold in aerosol cans.

Judging from the learners' reactions and involvement in the projects, it is believed that they have cultivated empathy and respect for the immediate and the larger community and that the course helped learners develop attitudes and values that, if reinforced, will turn them into active and responsible citizens able to take informed decisions.

It should be mentioned at this point that the projects were carried out within the framework of a whole-school recycling project that the school has been running for the last three years in an effort to raise learners' ecological awareness. Learners are continuously reminded of the importance of recycling and separate recycling bins have been placed in all classrooms as well as in the school yard.

6. Course evaluation

Judging from learners' enthusiasm in all aspects of the program, it seems that the effort to design and implement a balanced course has been quite successful. Research carried out in the school has shown improved English language competence in the skills of listening, reading and writing as a result of the implementation of a similar course at the 3rd Experimental School of Evosmos in years prior to those of the Erasmus+ CLILprime project (Ziaka, 2014). Due to learners’ young age, formative assessment was carried out throughout the course to provide feedback on content acquisition, either through collaborative tasks or through online quizzes both of which learners enjoyed and happily participated in.
In addition, there was an effort to receive feedback from learners concerning the implementation of the course and the tools used. During the Erasmus+ project learners were asked to keep learning diaries and at the end of each year they were also given online, anonymous questionnaires consisting of both close and open-ended questions. Concerning the questionnaires, the percentage of learners who reported liking the videos in class ranged from 75-95 percent in the course of three years and further learner comments included the novelty of the approach in comparison to the use of textbooks. Percentages of learners who rated the use of online game-like activities very favorably were also very high, although games using famous formats, such as pacman or ‘who wants to be a millionaire’, rated slightly higher than the others. Learners did not hesitate to mention the games as one very important criterion that made them like the whole teaching-learning process and mentioned enthusiastically in their commentaries that they learnt through playing. The site that was created for the purposes of the course was evaluated as very useful by the majority of the learners, the percentages ranging from 85 to 100% depending on the school year. Learners also recorded how their attitude towards the lesson changed gradually due to the games used and the fact that their own confidence in handling the material increased. Their comments also show an appreciation of all the tools used.

7. Conclusion

The course design and all the tools and approaches used were carefully selected and aimed at the delivery of a balanced, motivating, engaging course for young learners that blended technology with hands-on experience and urged them to act. The goal was to help them develop their cognitive skills and learning strategies along with a positive response towards learning and an active stance on environmental issues. Digital tools bridged the gap between the school context and traditional methods of delivery and satisfied the needs and preferences of my digital native learners, in an effort for both the teacher and learners to “speak the same language” (Prensky, 2001: 1-6). Projects aimed at the change of attitudes towards environmental issues and integrated the element of culture, in a dynamic interplay between its micro- and macro-level, the personal and the global aspects. The texts used introduced learners into the culture of the discipline.

However valid the challenges presented in the beginning of this paper are, as long as the teacher plans ahead listening to what their learners tune into, forming new learning partnerships with them for effective new pedagogies (Fullan and Langworthy, 2014), there
are now several available means to help him/her guide them to personal maturity and moral consciousness.

The implementation of CLIL in the teaching of Environmental Studies to these learners at the 3rd Experimental Primary School of Evosmos has proven both a rewarding experience for the teacher and an enjoyable and productive one for the learners.

References


Chapter 3. Teaching Environmental Studies through CLIL to 4th grade learners in an urban area


Chapter 3. Teaching Environmental Studies through CLIL to 4th grade learners in an urban area


69
Chapter 3. Teaching Environmental Studies through CLIL to 4th grade learners in an urban area


Chapter 3. Teaching Environmental Studies through CLIL to 4th grade learners in an urban area

Appendix

Butterfly worksheet
Chapter 4. The implementation of a CLIL History course: sharing experience and challenges

The implementation of a CLIL History course: sharing experience and challenges

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Abstract
Designing a CLIL course is a great challenge for every language teacher since learners are expected not only to gain knowledge of the curricular subject in question but also to learn and/or improve their knowledge of the target language. The younger the learners a CLIL course is addressed to, the bigger the problems anticipated in communicating knowledge of the subject. The first part of the current chapter describes CLIL implementation in a History class of 3rd and 4th graders at the 3rd Experimental Primary School of Evosmos. The author analyses the factors considered in the CLIL course and materials design, describes its implementation and discusses how assessment is practiced in her CLIL class. At the end of the chapter, the author discusses how this CLIL implementation experience was enriched through her participation in a KA2 Erasmus+ project titled CLIL Prime aiming at the Promotion of CLIL Implementation in Europe.

Keywords: CLIL; History; CLILprime; 3rd Experimental Primary School of Evosmos

1. The selection of History for a CLIL course

In 2012-13, CLIL was first introduced to a class of 3rd graders at the 3rd Experimental primary school in Evosmos, for the teaching of History for two 45-minute sessions, following the specifications of the National Curriculum. This CLIL History course was designed and implemented by the present EFL teacher, hereafter referred to as a CLIL teacher. Since this was the first year of CLIL implementation in grade 3, the course was carefully designed so that the syllabus requirements would be met despite learners’ low linguistic level.

One of the reasons why the subject of History was selected for CLIL implementation is its importance to the general education of any human being and its inseparable connection to culture whose role in Coyle’s conceptual framework has already been analytically
Chapter 4. The implementation of a CLIL History course: sharing experience and challenges

presented in the first chapter of the current book. More specifically, as Deutsch (1998 cited in Bodorik 2015:257) pinpoints,

"History provides identity. Studying history improves our decision making and judgment. History shows us models of good and responsible citizenship. History also teaches us how to learn from the mistakes of others. History helps us understand change and societal development. History provides us a context from which to understand ourselves and others."

The second reason for this particular CLIL implementation was presented by the present teaching situation. As already mentioned in the first chapter of the book, the 3rd graders of the current school had already had a considerable amount of exposure to stories and fairytales during their previous two years of EFL instruction. This fact as well as the content of the History course for 3rd graders –ancient Greek myths- encouraged the EFL teacher to design a CLIL History course for their linguistic and cognitive level. One of her priorities when doing so was that the aims and goals set in the Greek History Teacher’s Book, could be accomplished.

The implementation expanded to both classes of Grade 3 in 2013-14 to be followed by the introduction of CLIL History to grade 4 the following year. The CLIL course for the latter group of learners, however, had to be designed in a totally different way since its content and aims are different. Grade 4 History focuses on ancient Greek History covering the period between the Geometric Age and the Hellenistic period. At that level, learners are expected to acquire a detailed understanding of events that occurred within these particular historic periods and their impact on people over time. They are also expected to develop a chronological understanding and an ability to evaluate a range of historical sources and draw inferences in order to answer historical questions (Katsoulakos et al., 2008).

2. Planning and implementing the CLIL History course

In the Greek primary school context, the subject of History is taught through books prescribed by the Ministry of Education comprising a Student’s Book and a Workbook, while the teacher may consult the Teacher’s book for instructions and suggestions. Teachers are encouraged to use any Information and Communication Technology (henceforth ICT) sources that may contribute to the effectiveness of the teaching and learning process, although no suggestions are made by the textbook writers towards this direction.
Chapter 4. The implementation of a CLIL History course: sharing experience and challenges

The Grade 3 Greek syllabus is organized around particular distinct myths and heroes, and the teacher is encouraged to gradually challenge learners’ thinking to the causes of the creation of these myths or heroes and to help them make associations with the historical truth behind them (Maistrellis, Kalivi and Mihail, 2007). According to the book writers (ibid.), the transition from mythology to history is thus facilitated. The Grade 4 syllabus, however, is linear, fostering learners’ development of historical knowledge and thinking. As the writers of the present prescribed books put it (Katsoulakos et al., 2008), the subject of History should also help learners at this stage develop not only their self-consciousness but also some broadly applicable skills by studying historical sources, drawing conclusions, researching evidence and communicating findings. They also encourage teachers (ibid) to involve learners in history projects organized by archaeological museums.

To design both CLIL History courses – for grades 3 and 4 - the CLIL teacher first studied the equivalent Greek History textbooks with their accompanying Workbooks and Teacher’s Books. Her aim was to teach the prescribed syllabus and help learners reach the learning outcomes -as these are set by the National Curriculum- using the CLIL approach. As Wolff (2002) pinpoints, at the end of a course, it is essential that CLIL learners have acquired the same content knowledge as learners who studied it in their mother tongue. Moreover, the ‘CLIL Curriculum Framework’ as presented by Coyle (2006) was consulted to serve as the teacher’s checklist during her planning.

The current CLIL History courses are both ‘subject-led projects’ (Clegg, 2003 as cited in Coyle, 2007:545-546) since the emphasis is placed on the subject-based component rather than the language. Treated as such, no explicit language teaching was attempted by the CLIL practitioner, unless learners needed clarifications in order to comprehend the content.

The current CLIL practitioner included a museum project in her implementation since she believed that it would be an educative, not only ‘hands-on’ but also ‘minds-on’ (Hein 2002:2) experience for her learners. The archaeological museum visited for this purpose was the archaeological museum of Thessaloniki which hosts artifacts dating from prehistoric times to late antiquity. Museum staff have developed material in the form of ‘worksheets’ in the children’s native language (henceforth L1) concerning some of the exhibits that teachers from visiting schools are encouraged to use with their learners during their visits. ‘Worksheets’ in this case refer to single sheets of paper with problem-solving tasks distributed to the learners before the visit starts. This material covers a wide range of topics.
concerning everyday life in ancient Greece, military equipment, sports etc., all of which are discussed during the history course since they form part of the syllabus.

The current CLIL teacher considered that, on the one hand, this museum experience could serve to increase learners’ exposure to the material taught and diversify learners’ syllabus-related interaction during the visit (Mortensen and Smart, 2007); on the other hand, this experience could help learners to refine pre-existing knowledge or construct new knowledge (Anderson et al., 2000 as cited in Mortensen and Smart, 2007). Therefore, in order to meet the needs of the CLIL nature of her course, the teacher adapted some of the museum worksheets in the target language (henceforth L2) and learners formed working groups according to the topics they would ‘explore’ during their visit. The goal of this ‘exploration’ was the collection of the information required for the completion of their worksheets, while, during the visit, learners had to negotiate how this information would best be exploited.

After the museum visit, each group of learners had to make a presentation in class on the results of their exploratory visit, while the other groups would follow the opposite procedure: try to answer the worksheet on the topic with the help of their fellow learners’ account. Then these groups would also evaluate both the organization and presentation of the information they received. In this way, the learner groups, in turn, were encouraged to adopt the role of the teacher by presenting content material and assessing performances. In the five years of 4th Grade CLIL application, the project described above was one of the learners’ most favourite learning experiences during the course.

3. The materials

Considering the course requirements of both grades mentioned above, the CLIL practitioner also had to adapt the subject matter content in such a way that the content-obligatory language would not intimidate the young learners, especially the 3rd graders, at the beginning of the course. The learners in question develop their reading skills with the help of a synthetic phonics programme, which is completed two to three months after their History CLIL course starts. This means that the first topics of the Greek Mythology should be designed in such a way that language and content learning would become “explicit and transparent (…) enabling the learners to bridge the gap between the learners’ conceptual and cognitive capacities and the learners’ linguistic level” (Otten, 1993 cited in Coyle, 2007:549). Coyle (2007:554-555) considers this cognitive-language level mismatch “as one of the major
Chapter 4. The implementation of a CLIL History course: sharing experience and challenges

challenges for CLIL”, while Meyer (2010) refers to scaffolding as a means of boosting students’ cognitive academic language proficiency (CALP).

In order to support the low linguistic level of the learners, the CLIL course developer used a range of media such as the internet, television, print media etc. to either create or adapt materials, both as teaching and learning aids; this was expected to facilitate learners to gradually work towards higher linguistic demands. Meyer (2010:14) characterizes multi-modal input as “one of the key concepts for selecting materials” since, as he highlights (ibid.), it allows for diversified teaching, promotes visual literacy and enables a deeper understanding of the specific subject content, while at the same time it serves to illustrate and clarify complex matters presented in a foreign language. As the lack of specific CLIL materials often poses a challenge to the teacher (e.g. Infante, Benvenuto and Lastrucci, 2009; Coyle, Hood and Marsh, 2010), the use of ICT tools can facilitate both the teaching and the learning procedure in a variety of ways (Wojtowicz et al., 2011). Thus, in order to organize the teaching procedure, the CLIL practitioner often created PowerPoint presentations on the themes to be taught according to her instructional goals. The visual material and the strategies included in these presentations were carefully selected according to the cognitive level of the students. Generally, visuals facilitate comprehension and learning to a great extent since, among other things, they make texts more “concise” (Levin and Mayer, 1993:98) and “correspondent” (Levin and Mayer, 1993:100) and may even facilitate memorization of content because of the dual- coding (Clark and Lyons, 2010) with the help of which learners build referential connections between visual and verbal representations of the presented material.

Other important ICT tools the CLIL teacher used were either animated videos as teaching aids with her younger learners or history documentaries with her older learners as a means of exposure to the content to be taught. Using silent viewing mode was also common practice at the earlier stages, since it allowed the CLIL teacher to adapt input to students’ linguistic level. As CLIL practice developed, animated videos were gradually replaced by documentaries for various teaching and learning purposes. They were sometimes used for brainstorming or for the presentation of new content, while at other times they were used for expansion on the theme taught or comprehension checking purposes. With regard to the latter, the CLIL practitioner exploited both L1 and L2 documentaries setting different types of tasks. They sometimes served as springboards for other content-based classroom activities or projects in class or, at other times, they were used for video tasks which were developed
with the help of Internet video platforms and were then uploaded on the CLIL teacher’s website to be accessed and performed at learners’ own time. In this way, learners had the opportunity to review topics dealt with in class using a different mode of presentation, at their own pace, and the teacher could get useful feedback from the platform about her learners’ performance.

The prescribed materials were also used. Some of the workbook activities were adapted and usually simplified so as to address learners’ proficiency level in the target language. Excerpts from primary sources included in students’ textbooks, especially in the 4th grade, served as a starting point for discussion in L2 although they were read in L1. In this way, learners were not only exposed to material meant to consolidate newly acquired knowledge (Katsoulakos et al., 2008) but they were also asked to discuss in L2 texts that were presented in L1. The above practice, known as (Williams, 2002) a case of translanguaging, is considered to be beneficial for language learning in CLIL contexts (Moore and Nikula, 2016 as cited in Portolés and Martí, 2017). Meyer (2010) recommends it as a way of making CLIL learning more sustainable. Moreover, it offers opportunities for enhancing both learners’ speaking skills, which are often neglected in the CLIL classrooms (Dalton-Puffer, 2011), and interaction on subject-specific issues which, as Vollmer (2008) pinpoints, CLIL learners fail to verbalise appropriately.

4. Motivating the CLIL History learners

So far we have presented the CLIL teacher’s attempts to meet the syllabi requirements; to this end, examples were given of how she integrated content and language so as to become more effectively accessible to her young learners. Another very serious challenge, however, that she had to deal with throughout the two-year implementation of the CLIL History program, was students’ motivation. Williams and Burden (1997) in their three-stage non-linear model signify the importance of not only generating but also maintaining and fostering motivation throughout the learning process. In the same respect, Dörnyei (2001) presents a few techniques, called motivational strategies that can serve as tools in teachers’ hands to promote learners’ goal-related behaviour. These are defined by Dörnyei (ibid:28) as “those motivational influences that are consciously exerted to achieve some systematic and enduring positive effect.” Among other strategies, the effectiveness of the elements of stimulation and enjoyment through game-like activities in the young learners’ classroom is highlighted (Dörnyei, 2001). Therefore, the teacher in question designed and involved
learners in various entertaining tasks with a significant pay-off, however, in terms of CLIL teaching. To name but a few, 3rd graders participated in a ‘nectar party’ where, with the use of a recipe, they made and enjoyed their drinks like the Olympian Gods and Goddesses when the relevant topic was discussed. Another entertaining task was the preparation of their own shadow puppetry performance on the Daedalus and Icarus myth or participation in various games the teacher introduced in class, most of the times created by herself, using authoring tools or platforms. Authoring tools and platforms were used to a great extent with 4th graders as well although these learners were also exposed to a great variety of games available online relevant to the material taught.

5. The role of the teacher

Infante, Benvenuto and Lastrucci highlight the importance of the role teachers play in a CLIL programme since, as they put it, they “have the delicate task of choosing the right activity, the most involving strategy or material in order to catch students’ attention and to make CLIL work” (2009:156). Moreover, Järvinen (2006) pinpoints the impact of teacher’s linguistic behavior on triggering students’ thinking processes. More specifically, it is suggested (ibid.) that teacher’s display or closed-ended questions are inferior to questions that elicit long stretches of language from the students or to hypothetical questions with no predetermined answers, which are conducive to student thinking. Hence teachers’ selections and adopted roles are crucial in CLIL teaching.

In particular, the role of the CLIL teacher in her classrooms diversifies along these two years of History CLIL implementation since students’ learning experience changes. Thus, the role of the primary knower (Burton, 1981, as cited in Infante, Benvenuto and Lastrucci, 2009:156), according to which, she is the one having access to valid knowledge and truth, is adopted at the beginning of the course and gradually transforms into other roles that promote learner-centeredness and learner autonomy in the CLIL classroom. Although the ultimate goal is always to facilitate learners’ progress, according to the learning outcomes and their stage of language development, she may need to change roles from one activity to the next or even during the same activity. Hence she may act as task or group organizer, prompter, tutor or resource to provide learners with useful information or suggestions while they perform a task (Harmer, 2003). She also acts like an assessor or even a co-explorer (Kumaravadivelu, 2001) when she first triggers and then supports learners’ quest for active inquiry and cultural identity formation, as in the museum project implementation.
Chapter 4. The implementation of a CLIL History course: sharing experience and challenges

The issue of learner autonomy development is not one depending solely on the type of CLIL practice. As Wolff (2011) suggests, the CLIL learning environment promotes the capacity for self-organization, which is one of the traits of the autonomous learner. In the current CLIL classroom contexts, the teacher also promotes awareness and encourages the use of learning strategies that would help students improve their learning ability and become more independent learners (Harmer, 2003). Moreover, learners are encouraged to keep learning diaries and session time is devoted to their writing at the end of a teaching unit. Then the learners can reflect on issues concerning both the teaching and learning of the subject matter in question. Among other things, they write about what they learnt in that particular unit and how they feel about it, what difficulties they encountered and how they coped with them or if they feel they need help in dealing with them and which activity types they found interesting or enjoyable and would like to be repeated. These learning diaries provide valuable feedback to the CLIL practitioner since she collects evidence about the state of her learners’ knowledge and becomes aware of possible difficulties they encounter. Thus, she may adjust her teaching accordingly and provide learners with further input or clarifications if it is considered helpful (Ziaka and Koutalakidou, 2014) When writing their diaries, students may use either L1 or L2 and they are also encouraged to read their comments in class if they want to share their opinion with their classmates or discuss the problems they face. Most of the publicized comments discussed in class so far, regard learners’ concerns about ways of coping with more demanding input or new task types and in such cases their peers’ experiences often prove valuable. The only drawback of this ‘share and discuss’ practice is its time-consuming nature.

6. CLIL History learners’ assessment

According to the European Framework for CLIL Teacher Education, assessment is “intended to be a tool that supports learning and helps measure progress being made toward achieving planned learner outcomes” (Marsh et al., 2012:10). It should be considered central to classroom practice (Kiely, 2009) and when it is addressed to primary learners, as in the present case, it should follow the principles of good assessment practice (Massler, 2011). However, due to its dual focus on both language and subject, CLIL assessment should account for the goals and objectives of two instead of one subject to be accomplished (ibid.). Particular attention should be paid to the development of the language of the content area where assessment practices can be proven very helpful since they “can help to make the
Chapter 4. The implementation of a CLIL History course: sharing experience and challenges

language of content areas more visible to children and also to give teachers the chance to progress in academic language” (McKay, 2006 cited in Ioannou-Georgiou, 2011:119).

In our CLIL History classes, assessment is integrated into the teaching process, aiming at detecting learners’ problem areas and enhancing learning opportunities. Thus, it is formative since “the student’s learning (attitudes, skills, habits and knowledge) is analyzed with the student over longer stretches of time and used to improve learning and teaching” (Marsh et al., 2012:10). In this regard, a great part of the teacher’s practices already mentioned in previous sections of this chapter can also be described as assessment practices. The careful design and gradation of the teaching and learning materials and their continuous adjustment to learners’ cognitive and linguistic level throughout the History CLIL implementation program, is only one example. Another example is the careful nurturing of learners’ autonomy and the teacher-to-learner and learner-to-learner dialogue held through the learning diaries. Therefore, in this chapter, the assessment issues discussed will focus on the ways the learners’ product or response is assessed and how feedback is given.

It should be clarified, however, that since in the current CLIL implementation, content teaching is of primary importance, this final product is mainly assessed according to the extent that it satisfies the content learning and content language requirements. Learners are challenged with activities, some of which have the characteristics of exercises and others those of tasks. Barbero (2012) refers to the former to describe activities such as cloze, matching, true or false statements and generally activities that have right or wrong answers and to the latter to describe activities where correct responses are not always predictable and learners’ creativity is involved. At the beginning of the CLIL practice in question, learners’ performance is assessed through exercises only. When these are assessed, learners are provided with a score according to the calculation of their correct answers and feedback is given to the whole class in the form of discussion. Nevertheless, gradually, learners are exposed to tasks that have higher linguistic and cognitive demands. At the initial stages of task application, learners are asked to perform a group task which may be, for example, a verbal reproduction of a myth with the help of visuals; in this way, the effort and the cognitive demands as well as the evaluation of the output will be shared among the participants. Once, however, learners get familiarized with the task demands, such tasks are assigned as individual work and thus individual feedback is given. Feedback on task performance is given through a holistic rubric such as the one in Table 1 adapted from
Chapter 4. The implementation of a CLIL History course: sharing experience and challenges

Barbero (2012:50) served to define what the learner knows and has been able to do in a particular task.

Table 1: Example of a holistic rubric

<table>
<thead>
<tr>
<th>Scores</th>
<th>Descriptors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - Unsatisfactory</td>
<td>No knowledge of the content or specific vocabulary is demonstrated</td>
</tr>
<tr>
<td>2 – Almost Satisfactory</td>
<td>Lack of necessary knowledge of content and wrong use of specific vocabulary are demonstrated</td>
</tr>
<tr>
<td>3 - Satisfactory</td>
<td>Essential knowledge of the content and correct use of specific vocabulary are demonstrated</td>
</tr>
<tr>
<td>4 - Good</td>
<td>Complete knowledge of the content and appropriate use of specific vocabulary are demonstrated</td>
</tr>
<tr>
<td>5 - Excellent</td>
<td>Complete and thorough knowledge of the content is demonstrated</td>
</tr>
</tbody>
</table>

A rubric is considered the most appropriate tool to evaluate integrated competences (Barbero, 2012) and, apart from providing learners with feedback, factors such as greater objectivity, consistency of assessment and less time spent on students’ work evaluation are mentioned among its advantages (ibid.). Barbero (2012:50) distinguishes between holistic and analytic rubrics, the former evaluating “the product or performance as a whole” and describing the task “at different quality levels, each of them corresponding to a score”, whereas the latter, being criterion-referenced and offering a larger amount of feedback to the learners. The present CLIL practitioner, however, prefers the holistic type of assessment because of its advantages mentioned above as well as its simple descriptors, which can be easily comprehensible by her young learners.

7. Reflection on the implementation of a CLIL History course

The implementation of the CLIL History class described in this chapter posed a great challenge for the EFL teacher who designed and implemented it, for a number of reasons.
Chapter 4. The implementation of a CLIL History course: sharing experience and challenges

Firstly, she had to meet the content requirements of the 3rd and 4th graders’ History courses. Both modules had to be designed according to the aims of the National Curriculum and the objectives of the syllabuses and, as already described, material from the history textbooks had to be adapted or exploited in such a way that the demands of a CLIL course would be met. Consequently, a very heavy workload had to be managed before and during the first years of implementation. Secondly, and on a different level, learners’ parents had to be convinced about the effectiveness of the CLIL course since, on the one hand, it was introduced to children whose reading and writing skills were not yet fully developed and on the other hand, it concerned a more ‘sensitive’, as they characterized it, subject, that of Greek Mythology and History. Before its first implementation, some parents’ concerns or even doubts on whether the issue of national identity and culture could be developed effectively in L2 were expressed. The educational meetings held in the school premises at the beginning of every school year by the School of English supervisor greatly helped to alleviate parents’ anxieties. Additionally, the successful application of the CLIL course over the years diminished the expression of such doubts or fears, allowing the smooth and effective implementation of the CLIL History courses up to the current day.

8. The CLIL Prime Project: Considerations and personal gains

In the school year 2015-2016, the 3rd Experimental Primary School of Evosmos submitted a KA2 Erasmus+ project proposal, titled CLIL Prime, aiming at the promotion of CLIL Implementation in Europe. The project was approved and its realization started in September of the next school year. This particular project proposed the collaboration of five European schools, some of which had considerable experience in CLIL practice, and an affiliated university, the Aristotle University of Thessaloniki. The six educational institutions would exchange their expertise in research and educational practices and disseminate the results of their shared experience to the wider European educational community. The project enhanced the author’s experience in CLIL instruction in a number of ways which will be presented more analytically below in conjunction with what the Erasmus+ project entailed.

First of all, participating in the preparation of the Erasmus+ project has been a valuable experience. One of the priorities at the onset of this Erasmus+ project was to set the evaluation criteria for the lesson plans and teaching materials that would be created and used during this project; therefore, standardizing these criteria was a priority. The CLIL practitioner and author of this paper was largely involved in the selection of these criteria and
the creation of the checklist. That checklist underwent certain revisions after its first trialling before getting finalized. Towards the end of the project, the author presented the extent to which these criteria were met during the project implementation in a seminar hosted by a partner country. After the presentation, fruitful discussion was held among the project partners who reflected on the criteria less often met by the materials developers and possible reasons for this.

Secondly, the diversified profile of the partners involved in this project was a factor that intrigued the author since it gave her the opportunity to broaden her horizons in CLIL practices. The project partners came from a variety of ethnic and cultural backgrounds working in different educational settings: two of them were international schools, one was bilingual and two others were public schools, one of which was the coordinating organization of the project, the 3rd Experimental Primary School of Evosmos. Consequently, CLIL application among these partner schools varied considerably and was affected by several external or internal factors. More specifically, a number of factors affected the range and quality of CLIL implementation in those settings, e.g. the use of L2 as a lingua franca in the school setting, learners’ age, extent of exposure to L2 and CLIL practice, as well as CLIL practitioners’ educational background and confidence in their L2 skills.

Another valuable experience for the author was her participation in the study visits taking place during the project implementation. Following the description of the project, the partners via these study visits and virtual cooperation became familiar with the methods and techniques each of them used in their CLIL practice. Particularly during their study visits, participating teachers not only attended classes where CLIL lessons were delivered by colleagues of the host country, but they also delivered their own CLIL lessons to one of the classes attended. Since that was the case during every study visit, teachers who participated in all study visits, like the author of this chapter, had the opportunity to acquire a hands-on experience of CLIL practice in a wide range of teaching contexts using different approaches which served the needs of the learners involved and to suggest solutions to problems encountered. Thus, their CLIL techniques were calibrated to account for cultural and institutional variations and to establish a common ground of understanding. These study-visit participants then served as disseminators of that cross-cultural communication of the CLIL practitioners in their own school community.

Overall, the CLIL practitioners participating in the study visits were often challenged to cope with teaching contexts quite different from their own. The CLIL practitioner – author
of this chapter, in particular, had to deliver a CLIL History lesson to high school learners whose cognitive development was much higher than their L2 development. Coping with such challenges helped the author of this chapter to broaden her CLIL application scope and the pedagogic frame of her CLIL lessons.

Moreover, according to the project, on the last day of each study visit a dissemination seminar was organized by the host organization addressed to teachers and university students of the country in question. The presentations delivered during these seminars mostly focused on issues concerning CLIL implementation in the educational context of the participating organizations. CLIL dissemination actions that the organizations undertook within their educational region or personal experiences within the framework of the project. Although these seminars were addressed to an audience other than the partners themselves, the CLIL practitioner in question gained significant knowledge by participating in them both as a speaker and as a member of the audience. The questions posed and the fruitful discussions following the presentations sometimes led to the adoption of different teaching techniques in the current teacher’s CLIL classroom practice or the introduction of game-like activities that other CLIL practitioners successfully used with their learners.

Finally, a very interesting element of the current project involved the delivery of common lessons via Skype. To realize these lessons, CLIL practitioners had to share the syllabi they followed in their CLIL classes with their partner organizations so that they could find common topics to work on with their learners. That proved an unexpectedly complicated task to accomplish since it revealed how differently syllabi are designed around Europe. The bilingual school in Lithuania, for example, designed all its syllabi thematically so it was harder for CLIL practitioners of this country to schedule joint classes with their partners. Other practical problems such as time zone differences, school timetable differences and ICT problems arising during the Skype sessions resulted in some Skype lessons to be cancelled. However, the CLIL teachers who, like the present CLIL practitioner, accepted the challenge of a CLIL lesson between partner schools via Skype had a unique experience. The ‘challenge’ in question involved the planning and designing of CLIL History lessons to cater for two different types of audiences, her own CLIL learners and CLIL learners of another country. Although it was a more complicated than usual procedure, she enjoyed not only the experience of sharing this planning with a fellow CLIL practitioner coming from a different cultural background but also the learners’ enthusiasm and genuine communication efforts as
they tried to collaborate with their new Skype friends. This enthusiasm was also reflected on the questionnaires they were asked to complete at the end of the lessons.

9. Taking CLIL Implementation a step further

Designing and delivering a CLIL History course to young learners for seven years has been a rich experience for the author of this chapter. This experience, however, was further enriched by her participation in CLIL Prime, an Erasmus +KA2 project, aiming at the promotion of CLIL Implementation in Europe. The project in question gave her the opportunity to familiarize herself with methods and techniques adopted by other European schools implementing the CLIL approach, to collaborate with other CLIL practitioners and deliver CLIL lessons to their learners.

It is hoped that apart from the gains afforded to the CLIL educators who participated in CLIL Prime, this project will have an ongoing impact on the wider European community. The publication of this eBook along with the dissemination seminars, presentations and the plethora of materials that were developed during these three years may become a helpful tool in the hands of those European practitioners who are willing to participate in the intriguing experience of CLIL instruction.

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Chapter 4. The implementation of a CLIL History course: sharing experience and challenges


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Chapter 5. CLIL-ing Greece: ‘Environmental Studies’ in the 3rd grade of primary school

CLIL-ing Greece: ‘Environmental Studies’ in the 3rd grade of primary school

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Abstract
Much discussion has taken place about the benefits of the CLIL approach to foreign language teaching. According to the European Commission (2017:13), CLIL is effective because it “increases learners' exposure to the language they learn without taking additional time from the curriculum.” CLIL can be applied across the foreign language competence range as it “… differs from simple English-medium education in that the learner is not necessarily expected to have the English proficiency required to cope with the subject before beginning study” (Graddol, 2006:86). This chapter aims to present and describe CLIL implementation at the early stages of foreign language instruction through the teaching of Environmental Studies in grade 3 in a context in which learners learn one school subject in a foreign language for two hours each week. In particular, the syllabus, methodology, materials, activities, student assessment, and the rationale behind the teachers’ choices will be presented and discussed. The material presented here was implemented within the context of the Erasmus+K2 project: “Promoting CLIL implementation in Europe” which took place in the 3rd Experimental Primary school of Evosmos from 2016 to 2019.

Keywords: CLIL, Environmental Studies, 3rd Experimental Primary School of Evosmos, Greece, young learners

1. Introduction
Although ‘Environmental Studies’ in the third grade of primary school and CLIL share the term Integration as a key feature, they perceive it from different angles. In Environmental Studies, integration requires the content of the lessons to be taught holistically, bringing together the natural and the man-made world, in order to be relevant to
the learners’ experiences and their living reality. In CLIL, integration, as Llinares (2015) suggests, requires the investigation of two variables: “the functions of language in different subjects (subject literacies and genres) and the way language and content interact in a variety of classroom interactional activities” (Llinares, 2015:58). In practice, finding common ground to work on between achieving content acquisition and meaningful foreign language learning in the classroom has been a great challenge not only for the teacher designing the syllabus but also for the learners who needed to get used to working within the CLIL framework.

The present chapter is a foreign language teacher’s suggestion on how to approach Environmental Studies in the third grade of primary school through CLIL. The syllabus and the major part of the activities suggested were designed by the writer who also used few resources from the internet. Pedagogical suggestions and current trends on foreign language teaching were taken into consideration when designing the material as this was imperative for learners’ better understanding and teacher-student collaboration in the classroom. The reasons underlying the teacher’s choices in her effort to motivate her young learners have active participation in class and communicate information will be discussed.

1.1 The Greek syllabus for ‘Environmental Studies’ in the third grade

Environmental Studies in the third grade of primary school is a subject taught for two hours per week in the school timetable (two 45-minute lessons per week). According to the National Curriculum (NC) the nature of the specific subject is interdisciplinary but also cross-curricular, as it entails goals and conceptual tools from natural, social, cultural, historical, religious and economic learning environments (NC cited in Kokkotas et al., 2014:9). In other words, it integrates elements from all the subjects that are not taught in the first four grades of primary school, namely Physical Sciences (i.e. Physics, Chemistry, Biology, Geography), and Social Sciences (i.e. Sociology, Finance, Religious Education, History, Political Science). The general aim of this subject is to enable learners to develop skills that will help them observe, describe, interpret and, up to a point, foresee the function, relation and interaction between natural and man-made environments within which human activity is emerged in time and space. It is believed that, in this way, learners will be able to develop awareness not only of the advantages but also of the necessity for the sustainable development of the planet.
1.1.1. Syllabus specifications

Third grade learners’ age ranges between 8 and 9; because of their very young age, the NC (in Kokkotas et al., 2014:9) suggests that the material should be (a) taught cohesively in order to provide a holistic view of reality, (b) connected to the learners’ experiences in order to be comprehensible, interesting and relevant to the reality they experience, and, (c) approached with exploratory techniques so that learners can construct knowledge themselves. Hence, the teaching approaches should be constructive, discovering, experiential, collective and holistic, turning the learner into a researcher and a person responsible for their own learning (NC in Kokkotas et al., 2014:10). It is further explained that the teaching approach is considered holistic when it starts with the learners’ personal experiences and aims at the understanding of the topics under study. Emphasis is given on John Dewey’s, Vygotsky’s and Bruner’s learner-directed approaches of education which lead to the active participation of the young learner by raising their intrinsic motivation through enquiry and cooperative learning.

In this process, the teacher acts as the coordinator and facilitator of a cooperative and enquiring learning environment, guiding learners towards acquisition while focusing on their abilities and interests. Since the teacher is seen as the one who knows the class better, s/he is given the freedom to be a flexible negotiator of knowledge (NC in Kokkotas et al., 2014:8), that is, to approach critically the teaching material proposed and configure tasks that will respond to learners’ needs, employing not only the book but also other resources and tools, like audiovisual aids, ICT, and organizing experiential activities, such as field trips.

1.2 Reasons for selecting the subject for CLIL implementation

If one delves into the rationale and the teaching approaches underpinning CLIL, they will understand that this approach easily fits into the parameters described in the NC. Both the subject of Environmental Studies and CLIL are interdisciplinary and cross-curricular and both of them support integration. Most strategies that are essential for CLIL are also considered good practice in the teaching of Environmental Studies. They both view teaching holistically and they both promote active learning and respond to different learning styles. They both favour peer co-operative work, they build on student’s existing knowledge, skills, attitudes, interests and experience and foster creative and critical thinking. The focus of CLIL is on learning strategies, language and thinking processes such as predicting, conducting research, organizing information, formulating and verifying hypotheses, reporting and
drawing conclusions (Mehisto et al., 2008). The same processes form some of the aims at the NC for Environmental Studies. In both cases, the teacher needs to promote participatory approaches, take a critical stance towards the teaching material and create activities that will facilitate acquisition through enquiry and cooperation.

1.2.1 Considerations for teaching

Despite their common ground, the term ‘integration’ obtains an added value when it comes to CLIL because content teaching is combined with foreign language teaching in order for the motto “learn as you use, use as you learn” (Mehisto et al., 2008:11) to be realized. In other words, it is the pupils’ desire to understand and use the content that motivates them to learn the language and become “motivated bilingual independent learners who gain needed content and language knowledge and skills” (Mehisto et al., 2008:30). This consequently requires a methodological shift on the part of the teacher who needs to employ both basic interpersonal communicative skills (BICS) for informal communication and cognitive academic language proficiency (CALP) skills which include listening, speaking, reading and writing about subject-specific content.

A CLIL lesson is similar to an ELT integrated skills lesson, since it “… adheres closely to current trends in language teaching. Grammar is secondary to lexis, fluency is the focus rather than accuracy, and language is seen in chunks, as in the Lexical approach” (Darn, 2006:4). Still, the rich input does not guarantee rich output, especially when not all skills have been mastered. Therefore, the CLIL teacher needs to anticipate and deal with learners’ difficulties related to lexis and syntax in the foreign language as they are acquiring the necessary content knowledge so as to be able to use age-suitable scaffolding strategies.

In the present paper, the teacher is a foreign language instructor who, for the sake of CLIL, had to switch from ‘language teaching through content’ to ‘content teaching through language’. Although this initially required the teacher to step outside her comfort zone, she tried to combine CLIL pedagogy and ELT as both disciplines aim at helping learners acquire the new language in an authentic communicative framework and share common elements deriving from different teaching methodologies, such as Differentiated Instruction, Personalised Learning and other humanistic, communicative and lexical approaches. In the 3rd Experimental primary school of Evosmos, students are used to learning foreign languages holistically and in natural ways through literature and projects. However, as this process is an incremental one, third graders in this school have not fully developed all their foreign
language skills; although they have good listening skills and make conscious efforts to use the foreign language, without fear of making mistakes, in order to put their message across, they have poor reading and undeveloped writing skills. This was another concern for the teacher when designing activities.

2. CLILing Environmental Studies

This section examines in detail the implementation of the CLIL approach in the teaching of the Environmental Studies subject at the 3rd Experimental primary school of Evosmos.

2.1. The Rationale

The rationale behind the design of the syllabus (provided in Appendix A), took into account Coyle’s 4Cs (Content, Communication, Cognition, and Culture). Content answers the question of what to include in the teaching syllabus, while Communication answers the question of what language to use (e.g. simple subject-verb-object sentences and question-forms, the language of cause and effect, descriptive language using ‘there is/are’ etc). Cognition involves the consideration of the thinking skills (e.g. identifying locations on the map, finding information or pictures on the internet for an activity, learning to read a physical map etc.). Finally, Culture refers to a number of questions such as (a) why is Greece considered a rural country?, (b) has the geographical location of the country defined the culture and if yes, how?, (c) how does food define our civilization?, (d) is pollution a big problem for Greece and what can we do in our everyday life to help?

2.2 Content

The Greek coursebook is divided into eight units that reflect the interdisciplinary and cross-curricular character of the subject. The titles and thematic content of these units are provided in Appendix B. Due to the limited time this subject is taught (two 45’ classes per week), Greek generalist teachers do not cover all units. They have the freedom to do so since the Teacher’s Book was written having in mind the teachers’ demands for freedom and flexibility in the way they could realize their teaching goals (Kokkotas et al., 2014:8). Therefore, it is stated that the material suggested is a ‘teaching suggestion’ which teachers are

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6 The reader can find all the appendices of the current chapter following the link: http://bit.ly/326dM8W
Chapter 5. CLIL-ing Greece: ‘Environmental Studies’ in the 3rd grade of primary school

not obliged to adopt per se. They are given abundant suggested activities to choose from according to their learners’ interests and needs (p. 8). Consequently, for her CLIL class, the present teacher chose to focus on units two, three, four, five and seven which examine mainly the geographical features of the country and how these define our life (Appendix B). Geography serves the aims of CLIL and of the NC discussed earlier. It is a subject in which non-verbal communication, such as visual and graphic materials, can be used to clarify and integrate content presented verbally. It is a subject that may give opportunities for discussion, defending positions and giving opinions in the foreign language. It was thought that the content of the chosen units was interrelated, the chapters seemed to be easily interwoven and effectively involved many areas of study using selective information from other units as well, such as unit six, which raised questions about equal rights between the sexes or how advertisements influence our expenses. Moreover, the selected chapters were thought to provide a motivating framework for a CLIL class since young learners would be interested to learn facts about their country in order to know it better and also to share personal experiences from places they visited using the foreign language. The fauna and flora in Greece and the Mediterranean area, in general, were equally discussed in order for the pupils to be able to recognize and name different plants and animals in their local environment and to better comprehend the inter-dependence of fauna and flora in the Greek ecosystem and learn to appreciate their importance for their personal well-being.

Apart from the selected units, there was thorough elaboration on the Mediterranean diet as it was easily connected to and extended from the content that was covered in class concerning the Greek farmlands and their products. There was lengthy discussion on eating habits which depends on the kind of food people can find in the geographical regions. The material prepared by the teacher was designed to help pupils develop decision-making skills for better nutrition. Most importantly, learning and discussing about a diet which originates from the country where you grow up was hoped to further motivate learners to use the foreign language for effective communication.

Last but not least, a theme which was also thoroughly examined was pollution and possible ways to avoid it in everyday life. This topic was turned into a project that lasted for almost a month as it was treated as part of a global culture shared by all people regardless of the area they live in. Through different activities, learners discovered ways to develop environmentally friendly habits to help their surrounding world (i.e. house, neighbourhood, and school) and consequently the planet.
2.2.1 Learning goals

The content goals underpinning each thematic area were directed by the NC. There was consideration about what learning outcomes to expect as pupils’ young age raised questions about the final achievements. The general learning goals aimed at helping young learners:

1. acquire geographical knowledge about their homeland and place it in the world map
2. learn how to read a political and physical map and discern geographical features such as rivers, lakes, bays and peninsulas
3. learn about the Greek fauna and flora
4. learn about the structure of urban settlements in different areas in Greece
5. appreciate the Mediterranean diet and encourage its adoption
6. understand what “pollution” is and what solutions are feasible in everyday life
7. develop comprehension and communication skills in English, i.e. encourage lower thinking skills e.g. the ‘what’, ‘when’, ‘where’ and ‘which’ questions and the higher thinking skills e.g.’ why’ and ‘how’ questions in order to comprehend and learn the curricular content
8. promote academic vocabulary acquisition and knowledge of more complex sentence patterns

The units chosen from the book to address the above goals were mingled and were therefore reorganized in new thematic units (Appendix C) so as to ensure conceptual sequencing of the topics presented for better understanding. In most cases, the topics were analyzed more than the original material given in the Greek textbook not only to provide learners with rich linguistic input but also to provide a more complete and detailed picture of the content itself. Learners at that age unfortunately notice and consequently know very little about the country they live in, and there was thus an effort by the teacher to arrange imaginary trips in Greece through visuals in order for the pupils to appreciate it more and make sensible judgments later as active members of a society that respects the physical environment around it. For example, when the focus of the lesson was on Greek mountainous areas, there was a presentation of different kinds of forests depending on their location in Greece (i.e. mainland versus islands) and also of different kinds of trees – not just the four kinds given in the book (namely, pine, fir, chestnut and oak trees). When talking about the olive trees, there was discussion and visual presentation of the ways of harvesting and the process of making olive oil instead of simply mentioning the facts presented in the book.
all cases, in order for the students to practise locating symbols, such as peninsulas, mountains, rivers and lakes, a political or physical map of Greece was used. Reading a map is an issue that a Greek teacher following the suggestions of the book would teach separately in three chapters. In the CLIL class, this issue was integrated in the presentation of the different areas as an indispensable part of the acquaintance with parts of the country.

2.2.2 Structure of syllabus

The reformulation of the chosen chapters (Appendix A) for the creation of the CLIL units (Appendix C) was planned taking into consideration:

a) general principles for teaching a foreign language to young learners such as, using short and direct sentences when speaking to them, focusing on listening and understanding at first and gradually moving on to reading, concentrating on speaking practice by starting with single words and short phrases and gradually moving onto longer sentences and questions, keeping eye contact when communicating with them, using visuals, repetition, code-switching when needed,
b) activities to stimulate prior knowledge; brainstorming was considered essential in order to set the scene, to give learners an idea of what the lesson would be about and so attract their attention,
c) the need to present the input orally and visually, through PowerPoint presentations and videos because the image is a powerful tool in the hands of the teacher and acts as a scaffold to content acquisition due to the low level of linguistic competence in the foreign language,
d) time needed to present and consolidate the material. It was taken for granted that it would take longer than usual for learners to acquire new subject concepts in the foreign language and participate in classroom interaction, therefore repetition and rephrasing would be time-limiting factors concerning the content to be taught,
e) output, i.e. how learners were going to produce and communicate the content and language of the lesson. Therefore, there had to be a careful selection of tasks suggested in the literature for young learners. These tasks should involve learners in producing key content-specific lexis and simple structures,
f) the kind of scaffolding needed, i.e. content and language support strategies.
2.2.3 Teaching tools

In the first lessons, there is a discussion about the continents and more specifically about Europe. Both the world map and the European map are used and pupils have a first encounter with reading a compass. As that is not, however, the focus of the content, the class discussion is limited to a few introductory remarks, for the sake of locating Greece on the map. Throughout the year, lessons begin with brainstorming activities in every lesson. Following Krashen’s Input Hypothesis, the i+1 (Krashen, 1982), the next point to be introduced is conceptually relevant and comes as a natural extension to previous knowledge and not as something completely disconnected from the general topic. The lessons were planned within the broader framework of three essential conditions for language acquisition namely exposure, use and motivation as suggested by Willis (1996:11). More specifically, new knowledge is presented through the following tools:

a) PowerPoint presentations: they are designed in bright colours and include images of all the vocabulary and concepts aimed to be taught. They are considered an indispensable part of the class as: (1) they include images which attract learners’ attention and enhance their abilities to recognize and acquire what they are being taught, (2) they help the teacher to interact with the learners more through comprehension and elaboration questions that provide explanations and make the concepts clearer, (3) they offer analysis and synthesis on complexities, in other words, difficult concepts can be elaborated through commentary initiated by both the learners and the teacher and become, in this way, comprehensible (4) they keep learners’ affective filter at low levels as the visual aid makes the input easily recognizable and consequently more understandable, (5) they facilitate long-term memory which is a great advantage for the learners of this age who seem to forget easily. Some topics are conceptually challenging for the young learners since the information they entail is not common to their reality. For example, facts like the types of houses in different areas in Greece, differences in fauna depending on the biome, intensive versus free-range animal farming are concepts that people living in the city, in general, do not know unless they see them. Therefore, knowledge is scaffolded in smaller chunks and it usually takes about six to eight lessons for the teacher to be sure that the young learners have fully understood the topic under consideration. These lessons are instances where rich language input is given since the slides also work as a stimulus for the learners to ask questions, discuss the images, connect and compare the images to their personal experience.
b) **educational animated videos:** images and videos form a good scaffolding tool in the hands of the teacher because they reinforce learning of class material by visualizing it. Moreover, videos (1) help learners develop their listening skills (i.e. listening for global understanding or for detail), (2) provide information relevant to pupils’ needs and (3) stimulate language production since they can initiate discussion. There are many child-friendly instructional videos on the internet that help build background knowledge on a topic and facilitate acquisition: “Watching a short instructional video created for kids is a nice break for students—and something novel or fresh can really stick with them” (Alber, 2019). In order to choose the right video, one needs to have in mind certain criteria, such as content and age appropriateness, completeness (i.e. if the plot is complete), length (ideally it should be from 30 seconds to 10 minutes depending on the objectives), density of language and rate of speech delivery, degree of visual support and clarity of picture and sound (Gallacher, 2003). Educational videos for kids provide authentic language input and encourage learners to engage with it. When at some point the language in the video is difficult for the learners to understand, the video is stopped in order for the teacher to check comprehension through questions. Each video is watched more than once. Repetition of certain videos enhances comprehension and acquisition not only of the content but also of useful academic language. The series of ‘Dr Binocs’ and ‘Science Crash Course for kids’, which are made for English native speakers, as well as other geography and scientific videos for kids found on YouTube are extremely helpful. For example, when learning about the parts of a plant and their usefulness, the animated video ‘Parts of a Plant’ is used because it presents clearly all the components that are stressed in the lesson.

c) **worksheets:** they play a vital role in class since they are used for brainstorming, revising, presenting project work in class using the foreign language, for pair and group-work activities, for listening for gist, for practising new information and language. They are all printed in colour because they include pictures that facilitate understanding and are more attractive to read. However, especially in initial lessons, there are some worksheets which the learners are asked to colour and then describe their work in class because “Primary education is activity-based and it makes little difference what language the activity takes place in. The concepts are less dependent on the language than on the manner of presentation and the activities organized to support learning” (Mehisto et al., 2008:38). In these initial lessons, the worksheets given to learners are more artistic with no or little text. They are used either as homework or for classwork. In Appendix D, the learners are asked to colour the picture and
then show it to their classmates and describe what there is/are in this mountainous area. Other worksheets are projected on the board and used as a whole class activity, such as the poster shown in Appendix E1. In particular, learners come to the board and circle the image that depicts something we can see on mountainous areas. They have to name what is depicted, i.e. a bear, and then they have to explain why they circled the particular image, i.e. 'On a mountainous area we can see a bear and many wild animals' etc. In later stages, towards the end of the school year, learners are given more conceptually and linguistically challenging worksheets to work on in class as is demonstrated in appendices E2 and E3. There are also video worksheets in which learners are required to complete activities while watching the video. In this way, they may exercise all skills as they may do the work in pairs and thus use the foreign language in natural communication.

d) **arts-and-crafts:** this type of activities is used because they are appropriate for young children (Reilly and Ward, 2003:25, among others). Learners enjoy doing this type of activities and they are eager to describe their products, which results in rich foreign language output. In CLIL classes, the language used is defined by the content which, in this case, also includes academic lexis produced in natural speech. Children’s work needs to be displayed as it gives them a sense of achievement, so the teacher needs to cater for some space in the classroom for this purpose. The activity presented in Appendix F1 is an adaptation from an activity suggested in the Greek school book of Environmental Studies (Kokkotas et al., 2014:30). The learners need to respond to a hypothetical situation. They imagine they have gone camping in the mountains and they need to either draw or find appropriate pictures on the internet or magazines to cut and stick on the worksheet in order to answer the two questions: 'what can you see? / what can you do?' . They have the same kind of activity for plains and coastal areas as well. In this way they can predict and later on compare the activities they can do in different areas. When they come to class, they have to present their work to their classmates. In this way they are eager to recall already taught vocabulary and structures in order to make themselves understood and their listeners pay more attention as they have to do the same thing when it is their turn. The activity in Appendix F2 is used in class as a revision exercise of the material taught on mountainous areas. The learners work in pairs. They are given a worksheet in black and white depicting a mountainous area which they have to colour in pairs and, then, they have a second page with pictures readily printed on a sticker paper. The pictures are plants and animals seen in the Greek mountains. They have to discuss in pairs which fauna and flora they would like their area to have and then they
Chapter 5. CLIL-ing Greece: ‘Environmental Studies’ in the 3rd grade of primary school

would take turns to cut the picture agreed on and stick it on the first page. If they want to add different animals or plants they can draw them. In the end, they describe their pictures to their classmates. Another creative activity was when, after finishing the topic of plains and farming, pupils worked together to make a collage out of playdough. They were divided in groups of four and each group made a different part of a valley. They formed their plain surrounded by mountains and having a river nearby, fields of wheat, fruit trees, tractors and farm animals (photos of the end product are in Appendix G). While working on the playdough with their hands, they used the lexis they had encountered in class to communicate. At some point their sentences included Greek but that was considered as a normal process in learning since some code-switching, at least during the first months, is acceptable in CLIL pedagogy (Mehistro et al., 2008). Another arts-and-craft project which took place in class was to make a board game for pollution. The learners made a Monopoly-style board. They drew pictures and instructions on little pieces of paper and they stuck them on the board. They also brought cans to use as pawns.

e) notes: after working with new material in class, which usually takes about two to three weeks depending on the difficulty of the concepts and the density of language needed to analyze them, learners are given notes which serve as the written presentation of the material taught orally in class. The texts are accompanied by illustrations so that learners can visualize what they read. There are also some headings as markers to help learners find their way through the content. When learners are asked questions on the material, they are encouraged to reply in their own words in order to avoid parroting. Some pupils, however, are able to remember subject-specific phrases. These notes are printed in colour and the pupils are asked to keep them in a folder along with all the other material given in class. In this way, they make a binder as a record of learning progress and academic work accomplishments to consolidate and revise. At first the text provided is limited but gradually the texts become longer and more detailed.

f) songs: young learners benefit from the use of songs in class since they repeat the same structures and words, over and over again, without getting bored: “when words are linked to rhythm and music they seem to have more emotive and personal significance and so are remembered better” (Reilly and Ward, 2003:24). Therefore, whenever possible, and depending on the subject-driven learning goals, songs are used to reinforce learning and enhance long-term memory. ‘The Freshwater Biome’, song by Philip Philips, is used to help learners acquire relevant vocabulary while having fun. A rap song that is also used to
Chapter 5. CLIL-ing Greece: ‘Environmental Studies’ in the 3rd grade of primary school

reinforce the lesson about plants is ‘The needs of a plant’ and a song which repeats information related to farming and serves as an action song is ‘The planting song’. When talking about ways to stop pollution and help the planet, the ‘Going Green’, the ‘Kids for saving the Earth promise’ and the ‘Reduce, Reuse and Recycle’ songs make all learners participate actively. Fawkes (1996, cited in Rumley, 1999:123) suggests that teachers could even invent their own songs and rhymes to practise already taught vocabulary or introduce new vocabulary. Hence, at the end of the course, the learners learnt a song about Greece that was written by the CLIL teacher and composed by the music teacher of the school. The lyrics were carefully written to consolidate vocabulary seen during the school year (Appendix H).

g) games and riddles: games have been a useful teaching tool for decades since they help keep learners’ affective filter at low levels. They can be used as warmers, fillers, for consolidation of knowledge or assessment. Although CLIL does not focus on spelling or dictation, word games like crossword puzzles or word-searches make young learners feel more involved with learning the new vocabulary and notice its spelling. Reading between the lines or using the context to understand new lexis are few of the strategies the learners adopt in order to find the answer to a riddle. As Bressan (1970) points out “crossword puzzles… enhance vocabulary building, orthography and develop and test the student's knowledge of morphology” (Bressan, 1970:94). As the learners in the 3rd grade are still very young and their level of English very low, word games are used to boost their confidence in writing. Wahyuningsih (2009) suggests that by rewriting the words, in order to solve a riddle or a puzzle, learners memorize the vocabulary more easily. In order to avoid stressing her learners, the teacher designed a reverse type of crossword puzzle which means that the learners were given a solved crossword in which they read the words and they had to match them with the pictures. The pictures were the aid as the learners in the third grade are able to label them orally but they are not able to read and write with ease. This crossword is usually used for revision but also for self-assessment, as the learners can evaluate themselves without losing face in class. Other useful types of activities are those in Appendix I: a wordsearch puzzle and a cryptogram. Wordsearches are very helpful in developing word and pattern recognition and help learners learn the basics of spelling with little stress. They are very good for revising but also for creating new words with the remaining letters. The cryptogram is

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7 Source :
https://www.eslprintables.com/vocabulary_worksheets/places/geographical_features/Geographical_features_77_1899/
used as a problem-solving activity to raise interest in reading the message that will be used to initiate a class discussion. The hidden message is “Over the mountains, through the trees, travel the world and the seven seas”. Solving riddles is another game type activity in which the learners practise reading and writing and they revise already taught vocabulary. An example given in class is: “I look like a bright star in the sky. You can find me near the beach too. I am orange. What animal am I?” Last but not least, domino cards have proven to be a great aid to stress-free vocabulary learning; the learners find them motivational and can be used, apart from identification of a picture, for producing full sentences, for example, “This is a dolphin. It is big and blue. It lives in the Mediterranean sea”. It goes without saying that games of the type of ‘Who wants to be a millionaire’ are created to add more interest to the learning process.

h) **pictionaries (or pictorial dictionaries)**: they are considered very useful for language development: “Guiding students to pictorial dictionaries is particularly helpful as they usually group vocabulary according to concepts, themes or objects. Moreover, written words are supported by illustrations” (Mehisto et al., 2008:111). These pictionaries are created by the teacher to help pupils revise vocabulary at home when needed. They are given to the pupils along with the notes and they are also kept in their binders to show the development of the content.

i) **projects**: in many cases during the school year, pupils are asked to work together and find information on the internet to supplement class work. Projects are successful in that they promote cooperative work, they give learners the ability to do research and be responsible for their own learning and they provide the teacher with additional assessment possibilities. The worksheet in Appendix J8 is given to the class after finishing the fauna of all types of areas in Greece and learning the characteristics of each animal that lives in those areas. Learners need to search the internet for information about any kind of animal their group decides to search for, to stick pictures and fill in the information required. In this way all skills can be practised, including writing which learners have little practice in.

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Chapter 5. CLIL-ing Greece: ‘Environmental Studies’ in the 3rd grade of primary school

2.3 Communication

All the activities described above created a wealth of opportunities to use the language orally for various purposes and thus practise speaking skills because no language can be learnt simply by listening, reading or writing. As Krashen (1982) highlights, acquisition requires meaningful interaction in the target language, in other words, natural communication, so that speakers can focus not on the form of their utterances but on the messages they are conveying. Any CLIL class, depending on the subject taught, has its own “content-obligatory language” and learners need to have opportunities to use it in class. They do so when they try to fulfill a task or to simply express their thoughts in relation to the topic under study. In this case there is a need to use “content- compatible language”, i.e. the language which is helpful to carry out the planned activities effectively (Mehisto et al., 2008:104-105). In this respect the CLIL classroom creates a naturalistic environment for language learning. Nevertheless, since the learners are young, there are certain guidelines the teacher needs to follow. These include speaking clearly and at normal pace, use the appropriate language level, repetition, facial expressions, gestures and pictures to reinforce meaning. The teacher should also not forget to make communication meaningful by “…tapping into the experiences, personal interests and background of the students, and by really challenging them to think…” with small groups of peers and reward every effort for speaking (Mehisto et al., 2008:107). Although in CLIL classes there is rich and varied linguistic input used spontaneously as the lesson develops, there has to be a categorization of the different roles of foreign language as suggested by Llinares et al., 2012:9. The Language Triptych includes:

“the language of learning (language needed to express key aspects of content), language for learning (language needed to participate in tasks and activities) and language through learning (language which emerges when CLIL students are being stretched to think about and express meanings related to content)” (Coyle et al., 2010:60).

It goes without saying that concerning language objectives we should aim high but be realistic with what we expect our learners to produce. When it comes to ‘language through learning’ young learners develop slower than in the other elements of language. Hence, as has already been mentioned earlier, some use of the mother tongue is considered legitimate as a bilingual strategy to facilitate fluent communication and clarify potential abstract concepts.
Instances of code-switching in class may appear when learners negotiate or make off-task social comments, or even when the teacher’s instructions need clarification. For example, when we were once talking about food, the assignment was to bring in class a short recipe of a traditional Greek dish. The idea behind it was to revise and use vocabulary relevant to farm products we had seen in class. The learners were told that they could demonstrate the ingredients either with a PowerPoint or by realia. As extension, they could mime making the dish by explaining what they were doing. Through this activity they worked on countable/uncountable nouns, giving instructions but there were instances when mere translation was in order since they did not know all the necessary lexis. This, in turn, created the need for language learning.

Table 1 is an example of a lesson on the fauna and flora of the Greek mountains and how language was used at initial stages. The language objectives involved: descriptive language, expressing likes/ dislikes, expressing ability, group interaction and discussion.

<table>
<thead>
<tr>
<th>Language of learning</th>
<th>Language for learning</th>
<th>(Expected) Language through learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>mountains / mountainous</td>
<td>there is / there are</td>
<td>how are they…?</td>
</tr>
<tr>
<td>Pine / fir / oak / cedar / chestnut trees / willows / ferns / cypress</td>
<td>in mountainous areas we can see / we can do</td>
<td>Can we …?</td>
</tr>
<tr>
<td>forests / rivers / waterfalls / lakes</td>
<td>… is an animal that…</td>
<td>We can see…</td>
</tr>
<tr>
<td>Wild flowers / bushes</td>
<td>… is a fast animal</td>
<td>there is / are</td>
</tr>
<tr>
<td>rocky tops</td>
<td>… runs to hide from …</td>
<td>there isn’t / aren’t</td>
</tr>
<tr>
<td>wild animals</td>
<td>the bushes are not so high</td>
<td>we can’t do…</td>
</tr>
<tr>
<td>owl / bear / fox / snake / tortoise</td>
<td>owls fly at night</td>
<td>what is this?</td>
</tr>
<tr>
<td>wolf / wild bear / squirrel / mole</td>
<td>the waterfall ends up in …</td>
<td>this is a …</td>
</tr>
<tr>
<td>deer / jackal / hedgehog / eagle / wild goat / rabbit / lizard</td>
<td>the water falls down the hills</td>
<td>I have …</td>
</tr>
<tr>
<td>hibernate / hibernation</td>
<td>what can you see?</td>
<td>I like / don’t like doing…</td>
</tr>
<tr>
<td>predators / enemies</td>
<td>what can you do?</td>
<td>I saw a…</td>
</tr>
<tr>
<td>burrows</td>
<td>stick pictures / draw / match</td>
<td>My father hunts…</td>
</tr>
<tr>
<td>claws</td>
<td>eagles make their nests high up the mountain</td>
<td>they make a hole…</td>
</tr>
<tr>
<td>habitat / nest</td>
<td>wolves / bears live in caves</td>
<td>It is snowy</td>
</tr>
</tbody>
</table>

2.4 Cognition

Marsh (2002) stresses that CLIL does not promote only linguistic competence: “the ability to use different languages, even to a modest extent, can have a positive impact on the youngster’s thinking processes” (2002:8). This cognitional development, as Mehistro et al.
(2008) explain, is the mental faculty of knowing and includes: perceiving, recognizing, judging, reasoning, conceiving and imagining. CLIL, therefore, supports the holistic development of learners allowing them to build up their own understanding through tasks that offer opportunities to develop both higher-order (i.e. analyzing, evaluating and creating) as well as lower-order thinking skills (i.e. remembering, understanding and applying). Teacher’s interaction with learners does not include only display questions, checking comprehension of knowledge but also referential questions, both convergent (closed, e.g. what, who, where or when?) and divergent (open-ended, e.g. ‘Suppose…’, ‘How could you… and what might…?’). Due to learners’ young age, the majority of questions in the teacher-student interactions are convergent because not only do they engage learners’ memory through recall, but they also guide learners’ observations during PowerPoint presentations, videos or even their own work. Nevertheless, divergent questions are also used to extend the topics and help learners explore unknown territories and synthesize their responses, based on their existing knowledge, like ‘What might happen if the factories were built in the centre of the cities?’ The material designed for Environmental Studies in the 3rd grade is an effort to fulfill the goal of active learning by offering opportunities not only for remembering information but also for the challenging task of creating new information, always taking into consideration learners’ linguistic level. Bloom’s revised taxonomy (Anderson and Krathwohl, 2001) as well as the age of learners was taken into account when designing the activities. Examples of cognitive challenge were discussed earlier in the article. For instance,

✔ Remembering, which is the basis of the cognitive pyramid (Anderson and Krathwohl, 2001). The activities in appendices D, E1, F1 and F2 aim to contribute towards not only helping learners to recall but also define, list, repeat, reproduce and state information.

✔ Understanding: through the activities in the appendices used for remembering, the learners are also asked to distinguish, describe, explain, identify, locate, recognize, report and paraphrase.

✔ Applying: it is the stage when the teacher can evaluate the work taking place in class since learners need to choose, demonstrate, employ, illustrate, interpret, operate, sketch, solve, use or write as shown in appendices F2, G and J.

✔ Analyzing: discussion is a key-element towards analysis and all activities employed are used to facilitate learners to compare, contrast, examine (as when we brought seeds in the classroom and planted them in small pots to observe their growing process).
Evaluating: in other words, can the learner justify a decision? The PowerPoint presentations offer opportunities for arguing and supporting views but also the activities suggested in appendices D and F2 contribute to judging and selecting what is necessary for the task. The crossword games also enhance the skill of making inferences, evaluating choices and drawing conclusions (Wahyuningsih, 2009).

Creating: the top of the pyramid. The activities suggested in appendices D, E1, F1, F2, G and J have been designed to help learners assemble, design, and formulate their knowledge.

2.5 Culture

The European Union strongly supports CLIL as a suitable approach to promote pluriculturalism, a term which entails respect for other cultures (European Commission, 2012, 2014, 2017). This support is not only based on the need to promote plurilingualism but also on the fact that “the fourth C in effect permeates throughout the other Cs, promoting CLIL as a key player in the plurilingual and pluricultural movement” (Coyle et al., 2010:64). In her effort to analyze this process, Coyle (2015:93) explains that “it is through ‘languaging’ or ‘putting into our own words’ individual thinking that learners develop conceptual understanding. This in turn is embedded in the cultural context of learning and the ways in which particular disciplines use language”. According to Coffey (2005), the mere fact of studying through a different language promotes the tolerance and understanding needed in a plurilingual world. Nevertheless, the study of a foreign language on its own is not enough to lead to intercultural understanding. That is why, Coffey (2005) stresses that the use of a foreign language in a meaningful context broadens one's own linguistic overview. This meaningful context is provided in CLIL since the foreign language is the tool to explore and construct meaning. Intercultural experiences can be developed from different perspectives to make CLIL a ‘lived-through’ experience (Coyle et al., 2010:64). Meyer (2013) explains that “Looking at various topics from different cultural angles, realizing that other cultures tend to see things differently, have different values and beliefs, is one of the most valuable experiences that CLIL may offer” (2013:304). As technology becomes more readily available and a feasible option for many schools, it is likely that such links may well involve a range of technologies.

The term ‘Culture’ refers to the characteristics and knowledge of a particular group of people, including language, religion, cuisine, social habits, environment, transportation,
music and arts. Young kids today are frequently exposed to information from television or YouTube that show life, attitudes and habits in other areas of the world. In order for these learners to develop intercultural understanding, it is considered essential to comprehend and reflect critically on their culture first and then compare and contrast their national characteristics to other cultures. This classroom reality is supported by Hallet’s model of the Bilingual Triangle (1998) which has the following aspects: 1) phenomena and facts of your own country and culture, 2) phenomena and facts of other countries and cultures and 3) intercommunity (i.e. studies independent from culture, global and universal phenomena and facts). Since the focus of study in Environmental Studies in the 3rd grade is Greece, the lessons, with the visual support of the images in the PowerPoint presentations, turn into meaningful question-and-answer interactions between the teacher and the learners that end in cultural knowledge and understanding.

One of these instances in the CLIL classroom of the 3rd grade is when the main content is the architecture in different areas in Greece (i.e. mountainous areas etc). There was discussion on how and why houses are differently built in villages, towns or cities in different areas, i.e. mountainous, coastal and plains. The students were also asked to search on their own and then present to the class how houses are built in other areas of the Balkan peninsula, at first, and then in Europe and find similarities and differences depending on the geographical features. Another common practice in this CLIL class is to identify the jobs people usually do depending on the geographical features of the place where they come from. There are also discussions on means of transportation. The young learners, who experience a technologically advanced lifestyle, have never imagined that in a few places in Greece, especially in mountainous areas or rough land on islands, transportation or some farm work still takes place with mules. Cultural issues are also scaffolded when we talk about food habits and the importance of grains, olive oil and wine within the Mediterranean diet. As the young learners are used to western eating habits, they are not aware that the worldwide preferred Mediterranean diet has its origins in the products that we find in abundance in our small corner of the world. Therefore, it is highlighted that the Mediterranean diet, although well-known abroad, is nowadays neglected in its mother land as trends from other Western countries have taken up in preference. Apart from the topic of food and eating habits, intercultural awareness is also raised through the project on pollution, in which case videos and songs make learners realize that it is a global issue and all people should work together towards a solution.
3. Assessment

Assessment is an indispensable part of any teaching and learning process. The dual focus of CLIL renders assessment even more significant for learners and teachers alike because as Leung and Mohan (2004) explain the “assessment processes … involve both teachers and learners in reflection, dialogue and decision-making” (cited in Kiely, 2009:5). In this line, both content and language learning are assessed and as Kiely indicates “much of what teachers and learners do in classrooms can be described as assessment. That is, tasks and questions prompt learners to demonstrate their knowledge, understanding and skills” (2009:4). Hence, assessment of the Environmental Studies includes both formative and summative assessment. The formative assessment serves as a diagnostic tool for the teacher to check learners’ comprehension but it mainly aims at allowing learners to monitor their learning without the stress of being marked down if they say something wrong; in the end, learners are able to improve their learning on their own by identifying their strengths and weaknesses and target the areas on which they need to work more. In every lesson, either through teacher-student interaction or by learners’ presentations in class there is an ongoing performance assessment which reveals the learners’ strengths and weaknesses. For example, the formative assessment is performed through worksheets like the ones presented in Appendices D, E2, F1, F2, I, J but also through the riddles and the domino cards. As far as summative assessment is concerned, its goal is to examine the overall progress in accordance with the syllabus and the learning goals and it is performed through tests at the end of each instructional unit. Still, given the increased focus on content rather than linguistic accuracy, when learners are asked to produce something in writing at later stages they are not marked down for spelling or grammatical mistakes (Appendix E3).

4. Conclusion

The present chapter described the teaching procedure followed for the instruction of the subject of Environmental Studies through CLIL in grade 3, as it is implemented in the 3rd Experimental primary school of Evosmos. The teacher's selection of topics, her learning goals, the tools she uses, all aim at providing learners with the necessary scaffolding in their limited foreign language understanding and production. Emphasis is given on a holistic methodology “that transcends the traditional dualism between content and language teaching” (Meyer, 2013:310). Moreover, the age of the students requires a teaching approach which is action- and content-based and process-oriented. Repetition, demonstration, giving cues and
using visuals, describing tasks accurately and giving instructions clearly, sequencing tasks and maintaining learners’ engagement in the tasks were important points to keep in mind in the material design. Code-switching was considered inevitable as a natural communicative strategy, especially during the first months, to avoid stress and help build confidence. The assessment showed that learners were able to comprehend and grasp the content of the lessons through the foreign language and this seems to show that careful planning renders the dual focus of the CLIL approach feasible for very young learners with low linguistic level in a target language. The school book offers the teacher a solid basis to work on but the material needs to be enriched and in many cases more details need to be added in order for the topic of the lesson to be adequately analyzed and acquired by learners.

**References**


Chapter 5. CLIL-ing Greece: ‘Environmental Studies’ in the 3rd grade of primary school

1/resources/Articles%20and%20publications%20on%20the%20ECML/CLIL_Marsch.pdf


Chapter 6. CLILing on a chessboard

CLILing on a chessboard

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Abstract
This article describes the implementation of chess as a subject instruction via the CLIL approach in a Greek state primary school. More specifically, the rationale for choosing chess as the content of instruction and English as the language of instruction will be detailed and the methodology of the implementation of chess via CLIL will then be described. Additionally, this article aims at enriching current literature regarding the use of the CLIL method with young learners (ages 6-7) and the teaching of chess in particular.

Keywords: CLIL, chess, young learners, 3rd Experimental Primary School of Evosmos, Greece

1. Introduction
The present paper examines the pioneering attempt of implementing the CLIL methodology in teaching chess to Greek young learners (ages 6-7). The value of the CLIL methodology is well researched; various findings testify that CLIL is beneficial for learners’ general language proficiency (Lasagabaster, 2008; LorancPaszylk, 2009), but also for the development of specific language areas, such as vocabulary (Xanthou, 2011) pronunciation, grammar (Lasagabaster, 2008; Ruiz de Zarobe, 2008) writing (Ruiz de Zarobe, 2010) speaking (Gallardo del Puerto and Gómez Lacabex, 2013) reading (Admiraal, Westhoff, and de Bot, 2006; Varkuti 2010), and listening (Coral, 2009; Naves and Victor, 2010; Aguilar and Rodrigez, 2012; Aguilar and Munoz, 2013).

To this end, CLIL has successfully been implemented in the instruction of a variety of subjects such as mathematics, geography, science, history, just to name a few. However, we have not witnessed any attempts of its implementation with regard to chess instruction. Still, chess and CLIL can and should be used in the primary sector; while the CLIL method offers
many benefits in terms of foreign language development, chess is also of a high educational value (Dauvergne 2000; Smith and Cage 2000; Celone 2001).

Among other things, chess is considered a useful teaching and learning tool for building self-confidence and developing higher level thinking skills, especially in mathematics. For this reason, chess has been incorporated in the curriculum of the 3rd Experimental Primary School of Evosmos in Thessaloniki, Greece, and to our knowledge, it is currently the only public school in Greece in which chess has been incorporated in the mainstream curriculum via the CLIL method. This article aims at underlying the value of teaching chess via CLIL to Greek young learners and will: (a) provide the rationale for the choice of chess as a subject, (b) support the use of CLIL as a method of teaching, and (c) describe its implementation in the 3rd Experimental Primary School of Evosmos.

2. The rationale of our choice

The underlying arguments for the choice of chess as the curricular content to be delivered through the CLIL method include among others: (a) the fact that chess is gradually becoming a school subject in many schools worldwide, (b) the benefits of chess in general as these have been reported by research, (c) the connection of chess with various theoretical models of learning, (d) the lack of research in Greece regarding the benefits of chess to the learning process, and (e) the fact that one of the EFL teachers of the school was a qualified chess instructor.

2.1 Chess as a subject

The lack of literature concerning the use of chess instruction in CLIL contexts may be partly due to the lack of pedagogically qualified instructors of chess and partly to the limited integration of chess instruction in the school curriculum. Added to this is the fact that the letter ‘C’ in the acronym CLIL is often misinterpreted as referring to particular school subjects rather than to content, in general.

Having said that, we should also note that chess is gradually becoming a curriculum subject. There are various initiatives across Europe that aim to integrate chess instruction in the school curriculum. For instance, Malcolm Pein, a British chess International Master and regular correspondent of The Daily Telegraph newspaper, set up the ‘Chess in Schools and Communities’ Initiative (CSC) that has coordinated various pilot chess lessons in various British schools. According to FIDE (Fédération Internationale des Échecs), the Turkish Chess
Chapter 6. CLILing on a chessboard

Federation has included chess as an optional course in primary schools while in 2018 the ‘Sighted Hands Project’ (Gören Eller Projesi) introduced chess to students of 17 visually impaired schools in Turkey. Since 2011, Armenia has successfully made chess a compulsory subject while in October 2012 Bulgaria became the first European country to introduce chess into the formal school curriculum. In 2015, the Norwegian Parliament approved a one-hour a week chess class in schools for 3rd and 4th graders, shortly after Spain's parliament unanimously decided to introduce chess as a compulsory school subject. More countries are expected to be added to this list since in March 2012 the EU Parliament endorsed Europe's written declaration 50/2011 about Chess in School.

2.2 The benefits of chess in education

Chess is not merely a potential curriculum subject; it is also a valuable educational activity for all students because of its many benefits. To begin with, chess is associated with IQ improvement. One of the most famous experiments that has linked chess with IQ gains was the Learning to Think Project which was conducted in Venezuela and included about 4000 students who produced significant IQ gains after only 4 months of chess instruction (Ferguson, 1995). Furthermore, although one would expect that a chess player would exercise the logical part of his/her brain (left hemisphere), research shows that chess activates multiple areas of the brain (Onofrj et al., 1993; Amizdic et al., 2001; Atherton et al. 2003, Bilalić et al., 2010; Bilalić et al., 2011). It thus seems to be a perfect brain exercise.

Chess is also significant to scholastic achievements. Mathematics is one of the frequently referenced curriculum subjects that is affected by chess instruction. Indeed, the most famous chess puzzle that is in essence a mathematical problem is the knight's tour, in which the knight piece has to visit all 64 squares of the chessboard without stepping twice on the same square. Concepts such as numeracy, spatial awareness, logical deduction and problem solving are inherent in both chess and Mathematics and there are many studies that underline the contribution of chess to mathematics performance (Ho, 2006; Ho and Buky, 2008; Scholz et al., 2008; Barrett and Fish, 2011; just to mention a few). In the same line, skills such as “focusing, visualising, predicting, planning, weighing options, analysing and abstract thinking” (Meyers, 2016:3) play an important role in helping learners with school achievements, in general, and mathematics, in particular.
Chapter 6. CLILing on a chessboard

What is more, chess seems to enhance reading abilities. According to a study by Margulies (1993\(^9\)), 53 elementary school students who were taught chess showed increased performance in reading; Liptrap (1998) also provided evidence of learners who outperformed, in reading, others who were not exposed to chess. Furthermore, it has been shown that regular chess playing enriches the intellectual and socio-emotional status of children (6-16 years old) who perform better in attention, concentration, memory, planning and foresight (Aciego, Garcia and Betancort, 2012). Such skills are necessary in chess games since playing chess necessitates alertness and concentration in order to retrieve from your memory strategic and tactical motifs which will be in turn used to counter your opponents’ plans. According to Horgan (1988), “the calculation may go several to eight or ten moves ahead. This stage requires serious concentration and memory abilities…” (Horgan, 1988:4). And as chess players are not allowed to touch or move the pieces while they are thinking “much of chess players’ search for moves takes place in visual memory using visual imagery” (Saariluoma, 1995:74). But it’s not only the working memory that they use as they also have to resort to the long term memory in order to retrieve ready chunked knowledge of strategic and tactical chess positions that they have acquired through experience. (For more memory theories concerning chess, see Gobet, 1998). Chess can furthermore build “confidence and self-esteem without overinflating egos, as some losses are inevitable, even for world champions” (Dauvergne 2000:15). In addition, some self-centered adolescents with aggressive behaviours improved their behaviour after they had received chess lessons (Korenman et al., 2009); this is attributed to adolescents’ reduction of sensation seeking, which is “a trait defined by the seeking of varied, novel, complex, and intense sensations and experiences, and the willingness to take physical, social, legal, and financial risks for the sake of such experience” (Zuckerman, 1994:27). Through chess, sensation seeking is reduced as players learn how to evaluate the consequences of their moves.

Finally, chess has various health benefits. Among other things, playing chess can help prevent Alzheimer (Verghese et al, 2003), and help patients with schizophrenia (Demily et al, 2009). It is also suitable for autistic people because of its peaceful nature, lack of physical contact and promotion of cognitive and emotional development (Van Delft and Van Delft, 2010).

\(^9\) Krashen (2009) has criticized this study because of its limited results.
2.3 The chest of learning skills

It is not, however, only the direct benefits of chess that necessitate its integration in the school curriculum. Chess can prove a valuable tool for educators in their efforts to equip their learners with the necessary skills as stipulated in many theoretical models. Therefore, when properly implemented, chess instruction in school can: (a) promote Doyle's 4 C's (Content, Communication, Cognition, Culture), (b) enhance the 3 Rs¹⁰ (reading, writing, arithmetic), (c) cater for the 4C’s of the 21st century (Communication, Collaboration, Critical thinking, Creativity) and (d) incorporate Gardner's (2009) five minds for the future (Disciplinary mind, Synthesizing mind, Creating mind, Respectful mind, Ethical mind) as well as Gardner's spatial intelligence.

More specifically, Doyle's 4 C's (Content, Communication, Cognition, Culture) that are involved in the CLIL approach are clearly reflected on chess instruction. The content (chess game) may be learned through the use of English with learners exercising their cognition or critical thinking while evaluating chess positions. The fourth C (culture) is exercised with the different chess styles of players and the introduction of cultures when learning chess openings or variations (Queen Indian's defence, Berlin defence, French defence, Catalan opening, Spanish opening, English opening, Scotch gambit, Portuguese gambit); for instance, when learning the Queen Indian's defence, teachers and learners can expand and use the target language, in our case English, to learn a few things about the culture of India and perhaps get to know some famous Indian players (e.g. Viswanathan Anand).

As far as the 3 Rs (reading, writing, arithmetic) are concerned, as already mentioned, chess may enhance reading skills. What is more, chess players are also engaged in reading chess books, which provides further exposure to the language and promotes incidental learning.

Learners’ writing skills are also enhanced because chess players need to write down their chess games through the algebraic notation quite early and furthermore keep notes when they analyse their games. Finally, arithmetic is closely associated with mathematics and as stipulated in the benefits section, chess and mathematics are strongly associated. The chess values of the pieces (e.g. the pawn is worth one, the knight and bishop three, the rook five, the queen nine) are perfect examples of arithmetic exercises (visual or written). For instance, when young learners have mastered addition, pictures of various chess pieces can make up an

¹⁰ Ferguson (1983b) also mentions a fourth R (reasoning) being taught through chess
Chapter 6. CLILing on a chessboard

entertaining string of addition problems. The same can be applied to subtraction, division, and multiplication.

Although the 3Rs would have sufficed 50 years ago, learners of this era need to acquire, among other things, the 4Cs of the 21st century: Critical thinking, Communication, Collaboration, and Creativity. In chess critical thinking is incessantly exercised; players engage in deeper analytical thoughts through constant calculation of moves and evaluation of their position based on strategically and tactically defined criteria.

Communication, the second C skill of the 21st century, is evident in the teaching of chess through the constant verbal interaction between teacher and learners as well as among learners. Through playful and experiential activities, learners and teacher often interact in an attempt to consolidate acquired chess terminology and further practise the English language via the CLIL method. Communication can also be non-verbal; as Ferguson (1983a) correctly points out, chess players “often have a running dialogue within their minds reviewing the checklist for important strategic and tactical factors or mentally calculating” (Ferguson, 1983a:77).

The third C (Collaboration), takes place both during the teaching of chess and when playing it. With reference to the teaching of chess, learners may engage in group solving activities that are presented in class and commented on. Collaboration can also occur among learners when they cooperate in various crafts (e.g., chessboard making or colouring) or even when they engage in worksheet completion. Collaboration within the chess game, is evident in the collaboration of the pieces in order to achieve the final goal which is the checkmate (a position in which the opponent's king is threatened and there is no way to remove the threat). You cannot checkmate the opponent by using only one of your pieces. Furthermore, in variations of the classical chess game (e.g., when four players play on a single chessboard in two pairs), it is necessary for the pair to collaborate on the chessboard.

Finally, the fourth C (Creativity) is by default applied in chess given that the exact number of possible positions for the 10th move is huge. After the first 10-15 moves which usually make up the first part of a chess game (called opening), chess players engage into the second part (called middle game), in which creativity becomes highly important. Creativity, after all, is a unique human characteristic which is perhaps why in 1996 Kasparov (former world champion) managed to beat IBM's Deep Blue computer. Despite the fact that the

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11 69,352,859,712,417 according to https://chessprogramming.wikispaces.com/Perft+Results
computer had an overwhelming advantage of being able to evaluate 200 million positions per second, Kasparov eventually won the match.

Finally, chess players practise and therefore improve Gardner's (2009) five minds; To begin with, the disciplinary mind is exercised when chess players evaluate impulsive moves. The synthesizing mind is used when chess players calculate different variations while the creating mind is implemented in the calculation of chess combinations and their mental depiction in the mind. The respectful mind may be developed while chess players confront of a variety of opponents of different age, sex, and colour. Eventually, the ethical mind is represented in chess through (a) the customary handshake before and at the end of the game and (a) through resigning the game when having significant material disadvantage instead of continuing the game till the end of the set of time or perhaps awaiting the opponent's error.

The above are only a few examples of how chess is linked to theoretical frameworks for learning.

2.4 Lack of research in Greece

With reference to chess in Greek schools, research is scarce. In 1987 the first committee of school chess was created in the Greek Chess Federation and several efforts have been made to research the effects of chess instruction without, however, any result\textsuperscript{12}. The lack of research with reference to chess in schools is greatly attributed to (a) the limited introduction of chess in schools implemented only through a number of European programmes (MELINA, EVRATHLON) and (b) the lack of qualified teachers of chess. Although the initiative of the Thessaloniki Chess Union via the Kasparov Chess Foundation and the financial support of the Niarchos Foundation introduced chess to first and second graders in about 200 primary schools across the country during 2013-2015 the project has ended and is no longer implemented. Currently, research in school chess includes mere peripheral information such as statistical data of the development of chess in Greece, records of participation in school chess tournaments and so on. There is, to our knowledge, hardly any research with reference to the educational benefits of chess in Greek schools.

\textsuperscript{12} In November 1997 an ambitious proposal with the title "chess in schools" was submitted by the Faculty of Education of Aristotle University of Thessaloniki to the National Ministry of Education and Religious Affairs only to be rejected.
Chapter 6. CLILing on a chessboard

3. Why in English

The CLIL method might be the primary reason for using English while teaching chess in our case but it is not the only underlying reason. The use of English in our chess class further increases the English input; English as a subject is taught for five hours per week in the 3rd Experimental Primary School of Evosmos and with this one extra hour of chess in English, the input is now 6 hours per week. The high level of input of particular classes may, in turn, be used for experimental purposes as when we compare CLIL and non-CLIL classes in order to evaluate the effect of CLIL on learners’ linguistic competence. What is more, chess is the first subject of the curriculum to be taught via the CLIL method in the school and, as such it initiates learners to this new, for them, method of teaching. Finally, chess is by default a game and if it is presented as such, that is, in a playful, experiential, stress-free way, English language learning (via chess) becomes a truly enjoyable experience.

4. Implementation of chess in the 3rd Experimental Primary school of Evosmos

Having presented the benefits of chess in education and having explained our decision to use the CLIL method to teach chess, what remains to be accounted for is its implementation in the 3rd Experimental primary school of Evosmos in Thessaloniki, Greece. In this light, the following subsections will focus on issues that are characteristic of the methodology used in the particular school. More specifically, the issues of implementation include: (a) the use of specific approaches, (b) the use of appropriate material, and (c) the use of games. It should be noted that given the young age of the learners and due to the fact that Grade one learners are exposed to English for the first time, the CLIL approach is introduced gradually. Thus, we start with CLIL showers in the first trimester during which the Greek language is used to a high degree. Then, from the second trimester onwards, the teacher refrains from using the Greek language and only occasionally accepts the use of Greek on the part of the learners.

4.1 Choosing appropriate approaches

The experimental nature of the school where chess via CLIL is implemented allows for the implementation of various methodological approaches. Therefore, taking into consideration the young age of grade 1 learners (6 to 7 year old), this school adopts experiential and cross-curricular approaches to the teaching of English.
Chapter 6. CLILing on a chessboard

According to Lewis and Williams (1994), the term experiential learning refers to “learning from experience or learning by doing. Experiential education first immerses learners in an experience and then encourages reflection about the experience to develop new skills, new attitudes, or new ways of thinking” (Lewis and Hamilton, 1994:5). Indeed, in the 3rd Experimental primary school of Evosmos, the content of chess, and English in general, is offered through experiences, as language is always contextualised according to the curricular themes and topics. In this way, “knowledge is created through the transformation of experience” (Kolb, 1984:41). Therefore, in class, young learners manage to implicitly conquer terms and ideas of the chess game through lively and entertaining examples and activities.

The cross-curricular approach “is characterized by sensitivity towards, and a synthesis of knowledge, skills and understandings from various subject areas” (Savage, 2011:172) and the teaching of chess via the CLIL method involves subject areas such as English, arts and crafts, mathematics, literature. The inclusion of other subjects in the teaching of chess also provides opportunities for (a) application of knowledge in different contexts, (b) implicit recycling of prior knowledge, and (c) expansion of acquired knowledge.

4.2 Materials

There are a number of resources that were made available for the teaching of chess via the CLIL method. The materials that we used in the 3rd experimental primary school of Evosmos were selected not only because of their congruence to established methodological approaches, such as those of experiential and cross-curricular learning, but mainly because of their pedagogical value for the young learners. In this light, attempts were made to use material that were: (a) engaging and motivating, as young learners get easily bored, (b) rich and from various contexts, (c) story-based so that they are familiar to young learners and (d) multimodal, including activities that cater for a number of different learning styles (visual, auditory, kinesthetic).

4.2.1 Literature and cartoons

Given the learners’ young age, the initiation to the world of chess was initially accomplished through the use of stories and cartoons. Young learners initially sat on their cushions at the classroom’s story corner and listened to the teacher as he unfolded magical stories about the origin of chess. The learners at this stage were not passive recipients of the
Chapter 6. CLILing on a chessboard

 imparted knowledge, as the narration required movements and reactions from them; the teacher frequently stopped and asked for learners’ opinion or guesses, invited them to role play the story and so on. Two of the very useful story books we used were: (a) Ὄ οῦ δραπετεὺς τις σκακιέρας’ (Chessboard fugitives by Evgenios Trivizas, and (b) Ὄ Μια φορὰ κι έναν καιρό ήταν το σκάκι’ (once upon a time there was chess) by Giouvantsoudis Kostas and Mousiadou Irini. The latter is a good example of a book written by a couple that are not only chess players themselves but also state teachers; this explains the pedagogic approach of the book that starts with a story and includes gradual exposure to the world of chess through several playful activities. The books above are written in Greek and although this may have the advantage of being familiar to our learners, the CLIL teacher refrained from using the whole story; Instead, these fully illustrated books offered opportunities for initial CLIL showers.

To further reinforce learners’ interest in chess, a very familiar genre, that of cartoons, was frequently utilised; Geri’s game, found at https://www.youtube.com/watch?v=dMnUuKr88XU, is a video used to show that chess can be played by very old people. This can be exploited by teachers in motivating young learners to play this ‘new game’ which they will master with their grandparents promoting thus their bonds with them. Another very well known story is ‘Le petit Nicolas’ (available at https://www.youtube.com/watch?v=kPp-hekfDwY); In one of the episodes, Nicolas is also initiated to chess learning; this too can be used to motivate children to learn chess. Both of these cartoons were used in their English version.

4.2.2 Basic course book

After the smooth and pedagogically appropriate initiation to the world of chess through the use of stories and comics, the content of chess is further consolidated with the use of an appropriate chess course book. Taking into consideration: (a) that chess is a game that is governed by rules and it includes not only theory but also strategic and tactical themes, and (b) that our target group includes Greek young learners of English, a special chess course book was used throughout the school year.

The title of the book is Ὄ Ζατρίκης στὸ σκακιστικὸ δάσος’ (translated from the original work of Barsky and Kasatina, 2013 titled Karvin in the chess forest). The translated version is a product of the cooperation of the Kasparov Chess Foundation in Europe with the Association of Chess Players of Thessaloniki and includes: (a) two colourful and illustrated chess volumes, (b) a colourful activity book, and (c) a teacher's book.
Chapter 6. CLILing on a chessboard

This particular course book is considered suitable for the instruction of chess to young learners for a number of reasons. First, it includes basic theoretical, strategic and tactical chess concepts presented in an illustrative and child-friendly manner. Second, the material is accompanied by a teacher's book that includes detailed lesson plans and suggestions of experiential teaching of the content that includes a number of role playing ideas and games. Finally, the activity book that accompanies the two volumes offers practical and entertaining activities that aid young learners in comprehending basic chess theory.

4.2.3 Games

The content of chess, no matter how appropriate, should also be delivered in an age-appropriate way. Games are an indispensable part of children's lives as they grow; children learn and master skills while playing. Games are equally important for English language teaching as they may offer “a linguistically rich and cognitively challenging virtual environment that may be conducive to L2 learning, as learners get ample opportunities for L2 input and scaffolded interaction in the L2” (Sylvén and Sundqvist, 2012:302).

In this light, the teaching of chess in the 3rd experimental primary school of Evosmos is game based. And although chess is already considered a game in itself, the mastery of the theory, strategy and tactics of this game, especially by young learners, necessitates the use of more games. These games include both individual (e.g. colouring and other worksheets) and group activities (team setting up of chessboards, problem solving on chessboards, etc), inside and also outside class (e.g., chess on a big chessboard in the school yard). What is more, games for the teaching of chess also include personally created crafts such as chess dice, chess cards, chess stickers and so on. However, a highly important and motivating component of the game based approach to the teaching of chess at our school is the digital chess games. These refer to PowerPoint games created by the teacher, digital 3D puzzles with chess pieces, as well as special chess software (e.g. Fritz, Chessmaster).

5. Conclusion

In conclusion, given the numerous social, health and educational benefits of chess on young learners and the need to increase young learners' exposure to the foreign language, the writer strongly recommends the integration of chess via the CLIL method in more Greek primary schools. Chess can aid the acquisition of the foreign language in a much more entertaining way because chess, after all, is a game and young learners like games. What is
more, the game like nature of chess and a kid friendly way of teaching it (including stories, crafts, games, digital tools and so on) enhance learners' motivation. In addition, chess can aid the development of skills like reading and numeracy as many studies have proved. And although CLILing chess may not be considered a panacea in the hands of the educators, it surely is an indispensable educational tool in the hands of 21st century educators in whatever cloak of CLIL chess may be disguised. Therefore, no matter what type of CLIL (Shower, soft, hard) is implemented and no matter what CLIL model is followed (4Cs by Coyle, Triptych by Coyle, CALM by Gierlinger, Matrix by Marsh et al., Pyramid by Mehisto, 8C's by Tanner et al.13), teachers can and should use their magic wands of CLIL and cast their spells in the best possible way.

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Teaching Physical Education through CLIL to young learners

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Abstract
Physical Education (PE) through the CLIL approach uses the principles of experiential learning to teach movement content and simultaneously to promote cognitive development and social awareness through a foreign language. The purpose of this article is to present the principles, the teaching model and methods as well as the materials used in the planning and implementation of the CLIL approach in PE lessons at the 3rd Experimental Primary School of Evosmos. Furthermore, it aims to highlight the common areas between the 4Cs framework, on the basis of which a CLIL lesson is structured, and the goals and objectives of PE that determine its design and outcomes making it perfectly compatible with the CLIL approach.

Keywords: Physical Education, CLIL, primary school, language, 3rd Experimental Primary School of Evosmos

1. Introduction
The aim of Physical Education (PE) as a school subject is to promote learners’ growth and development in all educational domains (physical, cognitive, social, and affective) by using movement as an end in itself (physical domain) but also as a means to achieve cognitive, social and affective objectives (Melograno, 1996). Integrated learning in the teaching of PE is not a new concept. Placek and O’Sullivan (1997) described integration in PE both within the field of PE and across disciplines, named internal and external integration, respectively. Internal integration signifies movement and fitness skills and concepts, as well as social and thinking skills, which are consciously selected and specifically taught as a significant part of the curriculum and it is what the Teacher Guide of the New Curriculum for Elementary PE (2011) supports. On the other hand, external integration is described by Placek and O’Sullivan (1997) as the integration of PE with other subjects, where PE has the primary focus or the supporting role. This kind of integration is what the Greek Pedagogical
Chapter 7. Teaching Physical Education through CLIL to young learners

Institute suggested as the cross-thematic approach to learning in school practice (Alahiotis, 2001).

Numerous examples illustrate teachers’ efforts to integrate PE with a variety of school subjects, while the integration of PE with language dates back to mid-to late 1960s (Cone, Werner and Cone, 2009) and with effectiveness in many studies (e.g. Werner, 1999; Solomon and Murata, 2008). Also, PE has been used successfully, especially in the USA, to enhance and actively facilitate language acquisition and learning by making the content accessible to students whose native language was other than the language of the school context (e.g. Bell and Lorenzi, 2004; Mohlsen, 2008). Concerning the EU region, PE is among a wide range of subjects taught through the CLIL approach at pre-primary and primary schools (Ioannou-Georgiou and Pavlou, 2011). However, few studies have been conducted on the teaching though CLIL approach with primary school children (i.e. Rottmann, 2007; Coral and Lleixà, 2014; Coral et al., 2017).

According to Clancy and Hruska (2005:31), PE settings can be supportive of second language learners because they offer conditions similar to those that underlie children's first language acquisition:

"(a) direct connections between language and concrete physical activities, (b) physical and active involvement with language, (c) use of multiple modalities (e.g., speech, manipulation, modeling) to present information, (d) opportunities to demonstrate language comprehension through physical expression, (e) low-stress environment for language performance, (f) positive learning environment because children like to be active, (g) opportunities to interact with others, (h) provision of a setting where success does not depend on language alone".

As a result of the aforementioned conditions, PE provides an appropriate context for the implementation of the CLIL approach. Especially in the primary school, PE is a discipline which often relies on non-verbal communication and visual and graphics materials to integrate content presented verbally. In effect, learners of any level of linguistic competence can be taught this subject through the foreign language (Pavesi et al., 2001). What is more, the authors referred to PE as a good example of school subject for CLIL implementation because PE provides a strong link between linguistic skills and subject specific skills; in particular, listening comprehension is crucial in this subject as learners are involved in activities that require a good understanding of instructions. Similarly, Dale and Tanner
Chapter 7. Teaching Physical Education through CLIL to young learners

(2012:76) claimed that “demonstrations and objects presence makes it easier for learners to follow spoken instructions and this makes PE a good subject for learners who are new to CLIL”. What is more, the vocabulary used in PE is often highly frequent vocabulary students are familiar with and, therefore, easier for them to employ (Machunsky, 2013).

2. Context and Planning

The PE through CLIL approach was piloted at the 3rd Experimental Primary School of Evosmos during the school year 2013-2014. The lessons were implemented in a 2nd grade class for one of the four 45-minute sessions of the PE curriculum per week. The PE teacher and the English language teacher taught together and spoke only English to the learners as the aim at that stage was to develop their listening and speaking skills. The content of the lessons was based on the state approved PE curriculum. At the end of the school year, a questionnaire was distributed to teachers, learners and their parents in order to explore their perceptions about the implementation of CLIL in PE. The positive results of this study (Emmanouilidou, Laskaridou and Mattheoudakis, 2016) were encouraging for the continuation of the programme. In the following years, including the years of the Erasmus+ CLILprime project (2016-2019), the programme was gradually implemented in all grades, and for all the PE lessons. The programme, supported since 2013 by the aforementioned school, was further consolidated during the years of the Erasmus+ CLILprime project and its implementation is presented in the present chapter.

2.1 The Team-Teaching Model

PE through CLIL was accomplished through the team-teaching model which corresponds to the partnership interdisciplinary teaching model in PE (Cone et al., 2009). The PE teacher and the English language teacher, both specialist teachers with long experience in teaching their subjects, planned the units and each lesson together and taught at the same time in the same ‘classroom’ (school gym or yard) collaborating to deliver the planned content within the curricular areas. Even though researchers (i.e. Mehisty, 2008 as cited in Banegas, 2012) suggest that team teaching is one of the major drawbacks in CLIL, others claim that it is an ideal approach to the lack of expertise of the CLIL teacher on either the subject-related content or the foreign language (i.e., Renau Renau, 2016). In our case it was what Davison (2006: 460) calls “successful collaboration … between two teachers with very different status and roles who, through implicit or explicit negotiation, develop a strong and sustainable
partnership”. In this light, the PE teacher’s level of proficiency in English was high (C2 according to CEFR), even though she had no experience in teaching through the CLIL approach at the beginning of the programme. On the other hand, the English language teacher had already used the CLIL approach for years albeit in subjects other than PE. The successful cooperation between these two teachers was particularly important and helpful for the planning and implementation of the programme. Both teachers were very positive towards the team-teaching model and having experienced it with other peers in the past, they believed that it was the best model for the learners. They were willing to invest time in working together, planning the lessons, understanding the theoretical basis of each subject and in finding ways to help learners. The different repertoire of strategies and techniques each teacher had, was of great value in offering and assisting lesson planning and assessment.

An example of the above mentioned practice can be seen in a 2nd grade lesson where the usual approach of demonstration and oral explanation of a new movement skill (e.g., jumping rope) was enriched with the use of an English rhyme making the learning process more entertaining and effective. Another instance was the use of the miming technique in the 4th grade fitness lesson. The learners in small groups were given flashcards with the content of the health-related fitness components and they were asked to describe and explain it to their classmates. Both teachers felt that they benefited from each other’s expertise and had a high degree of respect and openness towards trying out different strategies in order to meet the needs of learners’ learning styles. Finally, the experience turned out to be a new and very interesting way of teaching which led the teachers to feel motivated.

3. The Planning of Units: The 4Cs in PE

At the 3rd Experimental Primary School of Evosmos, our aim was to allow our learners to achieve the PE grade level standards as well as to be exposed to and practice the English as a foreign language. The planning of the programme was based on the 4Cs Framework of Coyle et al. (2010), namely Content, Communication, Cognition and Culture. At the same time, PE as a school subject is organized according to the six Content Standards/Goals (physical/motor, fitness, cognitive, social, emotional, behavioural) which provide the answer to ‘what do students need to know and be able to do at each grade level?’.

The physical/motor and fitness goals correspond to the physical developmental domain, the cognitive goal to the cognitive domain and the social, emotional and behavioural goals to the affective domain. Since internal integrated learning is supported in the PE subject’s teaching,
objectives of each Content Standard/goal are expected outcomes for the learners in every unit and lesson. Thus, the planning of the lesson follows both the 4C CLIL framework as well as the New Curriculum for Elementary PE as they both aim to promote the development of the whole child and have many elements in common. To illustrate this, Table 1 shows the similarities between learning outcomes in a PE dance unit when this is taught in Greek (learners’ first language) and the learning outcomes of the corresponding CLIL lesson. The main difference between them, as De Graaff et al., (2007:606) stated is “… that CLIL involves additional language learning objectives… for communication and language use”, namely between the emotional Goal and the Communication outcomes. The planning of the lessons according to the 4Cs Framework could be described as follows:

Table 1: Comparison of the learning outcomes between the PE curriculum framework and the 4Cs Framework

<table>
<thead>
<tr>
<th>Greek PE curriculum framework</th>
<th>4Cs framework</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students should …</td>
<td>Students should…</td>
</tr>
<tr>
<td>• … be able to dance polka to music with different partners (movement Goal) =</td>
<td>• … be able to dance polka to music with different partners (Content)</td>
</tr>
<tr>
<td>• … know the movement elements of the dance and observe &amp; evaluate the performance according to them =</td>
<td>• … know movement elements of the dance and observe &amp; evaluate the performance according to them</td>
</tr>
<tr>
<td>• … make connections between dance and health-related fitness components (cognitive Goal) =</td>
<td>• … make connections between dance and health-related fitness components (Cognition)</td>
</tr>
<tr>
<td>• … be aware of activities from different cultures and cooperate with all classmates =</td>
<td>• … be aware of activities from different cultures and cooperate with all classmates</td>
</tr>
<tr>
<td>• … apply appropriate behavioural and safety rules (social &amp; behavioural Goals) =</td>
<td>• … apply appropriate behavioural and safety rules (Culture)</td>
</tr>
<tr>
<td>• … derive positive experiences from participation in physical activities (emotional Goal) *</td>
<td>• … use the dance vocabulary, answer questions verbally/writing, report back, respond physically to orders &amp; management protocols (Communication)</td>
</tr>
</tbody>
</table>

3.1 Content

Pavesi et al. (2001) stated that in a PE through CLIL lesson the physical educator can go through a whole series of verbs like running, jumping, turning round, climbing etc, by demonstrating various types of movements. On the other hand, according to the New
Chapter 7. Teaching Physical Education through CLIL to young learners

Curriculum for Elementary PE (2011), the main movement outcomes for learners of grades 1 and 2 is the mastery of ‘movement alphabet’. The ‘movement alphabet’ consists of (a) the fundamental motor skills and (b) the movement concepts. Fundamental motor skills are analogous to verbs (i.e. action words) (e.g. skip, hop, balance, pass, dribble etc), while movement concepts are analogous to adverbs (i.e. how a skill is performed) (e.g. self-space, forward/back direction, straight/curve/zigzag pathway, etc) (Buschner, 1994). Thus, the PE through CLIL programme in the early years of primary school enables the perfect match of the development of competence of the above-mentioned skills and the acquisition of the new movement vocabulary through the promotion of listening and speaking skills in the foreign/second language.

During the first year of teaching PE through CLIL, the grade 2 learners were taught from: (a) the physical developmental domain and (b) the health-related fitness components. The former included motor skills, such as transferring weight and balancing (from the unit of stability skills), turning a hoop with their foot, dribbling a ball with their feet continuously without losing control, kicking a stationary ball, passing a stationary ball and stopping a rolling one, punting a ball into the air with the instep and skipping a self- and a peer-turned rope (from the unit of manipulative skills). The health-related fitness components included flexibility and cardio-respiratory endurance. Also, the content selected from the other developmental domains/PE Goals and the respective expected outcomes were the following:

From the cognitive domain of PE learners were expected to know 2-3 cues for each of the above skills and from the affective domain learners should be able (a) to work willingly with all their classmates and demonstrate appropriate behaviours, and (b) to follow teachers’ instructions, respond to signals and react positively to class rules. The aforementioned expected outcomes of the cognitive and affective domains/Goals were also expected outcomes for the Cognition and the Culture components of the CLIL framework.

The particular content from the physical domain was considered appropriate for the programme because it had not been taught before, so both the motor skills and the main vocabulary was unknown to the learners. Nevertheless, other fundamental motor skills and, especially, the locomotor ones (walk, run, skip, gallop, slide etc), as well as the movement concepts, which had been taught in Grade 1, were by necessity used and the learners had to learn the corresponding terminology in English. Concerning the content of the cognitive, social and affective domains, this was taught together with all motor skills, according to the internal integration of PE Curriculum. The following years (Grades 3-6), the content of the
Chapter 7. Teaching Physical Education through CLIL to young learners

PE through CLIL class was the original content of the Greek syllabus for each PE class. Table 2 below shows an example of planning for the unit on stability skills, according to the PE Goals and the 4Cs framework, together with the expected learning outcomes for grade 3 learners.

**Table 2: Learning Outcomes for the Unit on Stability Skills - Grade 3 - according to the 4Cs**

<table>
<thead>
<tr>
<th>PE Goal in the physical domain</th>
<th>CONTENT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Demonstration competency in movement skills and proficiency in some of them</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit outcomes</th>
<th>Learners should be able …</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>to combine fundamental skills in mature stage and perform routines with locomotor and stability skills (static and dynamic balances)</td>
</tr>
<tr>
<td></td>
<td>to perform stability skills with body &amp; space awareness movement concepts (e.g. balance on different body parts, with and without equipment use)</td>
</tr>
<tr>
<td></td>
<td>to transfer their weight from one position to another</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COGNITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE Goal in the cognitive domain</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit outcomes</th>
<th>Learners should:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>know, understand and apply the critical elements of correct skills’ performance and the principles and strategies of effective and safe participation in static and dynamic balance activities</td>
</tr>
<tr>
<td></td>
<td>understand and apply the concept of base of support and the principles which govern it</td>
</tr>
<tr>
<td></td>
<td>know the names of the body parts that make a base of support</td>
</tr>
<tr>
<td></td>
<td>know and understand the difference between points and surfaces of the body</td>
</tr>
</tbody>
</table>

| Bloom’s taxonomy | Low order thinking skills: remember, understand and apply the critical elements and guidelines of correct balances and the principles of the activities. |
|                  | High order thinking skills: evaluate, analyze |

<table>
<thead>
<tr>
<th>CULTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE Goals in the affective domain</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit outcomes</th>
<th>Learners should:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>demonstrate respect for the others independently of physical abilities and responsibility in group activities by helping teammates achieve the targets of the lessons.</td>
</tr>
<tr>
<td></td>
<td>follow management protocols and safety rules.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COMMUNICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language of learning</td>
</tr>
</tbody>
</table>

133
Chapter 7. Teaching Physical Education through CLIL to young learners

general space, head, shoulders, knees, foot/feet, arms, hands, elbow, toe, fingers bent, stretch
- the critical elements of the skills:
  - Airplane arms
  - Eyes on a target
  - Stay still
  - Tight muscles
- Language of explaining/hypothesizing (e.g., ‘If the beanbag falls down, somebody else will put it back on your head’ ‘You balance on 4 points and on 3 points. When are you more stable? Why?’)

<table>
<thead>
<tr>
<th>Language for learning</th>
<th>• Answering questions verbally or responding physically to orders, reporting back (e.g., ‘show us a balance?’ ‘Nick, when the music starts, what skill can we demonstrate?’)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Management protocols and behavioural rules (e.g., ‘Line up one by one/in twos/threes’, ‘When I say go/stop…’, ‘Keep your self-space’, ‘Stop talking &amp; listen to me’, ‘Quiet please’, ‘Freeze’)</td>
</tr>
</tbody>
</table>

| Language through learning | • Use of feedback |

3.2 Cognition

The first year we implemented CLIL in the PE class, we mostly addressed the low order thinking skills of our learners; this was due, partly to their young age (2nd graders) and partly to the fact that this was the first year of their exposure to CLIL.

In particular, remembering the names of the movement concepts, the movement skills, the equipment, the management protocols, the principles and the rules of the activities and the games was a skill that was encouraged in every lesson. Understanding and applying the cues of each movement skill as well as the instructions for the execution of the exercises and reporting scores for the activities and tasks were also practiced and checked daily. Activities and tasks likely to encourage these thinking skills were used at the beginning, during and at the end of each lesson. In the introductory part of each lesson, teachers would revise the motor skills and words taught in the previous lessons through open-ended questions and oral answers or demonstrations by the learners. During the lessons, assignments like taking and reporting pulses, counting and answering the question ‘how many’ (i.e. ‘jumps/dribbles/goals did you or your partner do’) were very common. Also, tasks like traditional and well known games with minimum changes were used in order to motivate learners to remember and repeat the name of the skills in English (i.e. in ‘musical hoops’, a variation of the musical chairs game for PE, the child left without a hoop would call out the name of the skill with which learners would move in the next round of the game). Understanding was also checked when the English language teacher pretended not to understand the instructions so that the
learners would need to explain them to her; if necessary, she would repeat them using rephrasing to facilitate understanding. Other times, teachers and mostly the English language teacher performed the newly acquired skill incorrectly and learners corrected her, which was a very joyful activity. All the above mentioned techniques of checking learners’ comprehension and application of the skills were part of the formative assessment teachers used as an integral part of each lesson.

Less frequently in the first weeks, but more often as learners were getting used to the English language in PE and especially in higher grades, the cognitive skills of evaluation and creation were supported as well. Learners were asked to answer questions like ‘what will happen if…’ (i.e., ‘…you come in the turning rope when it is above you’ or ‘… the ball is far from your foot’) or they were required to perform a new skill or activity which they did following the teacher’s instructions and using their imagination (i.e., perform a balance on three body points). As learners had become acquainted with the new language in the following school years it was easier for the high order thinking skills to be used as they are used in the PE class in Greek.

Table 3 illustrates examples of questions on the Stability unit in grades 2-6 classified according to Bloom’s taxonomy.

<table>
<thead>
<tr>
<th>Level</th>
<th>Type of questions</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remembering</td>
<td>‘What is it?’</td>
<td>‘Show us body balance!’</td>
</tr>
<tr>
<td></td>
<td>‘Tell me…’</td>
<td>‘Tell me on how many body parts I am balancing. Which ones?’</td>
</tr>
<tr>
<td>Understanding</td>
<td>‘Explain why…’</td>
<td>‘Explain us why you keep eyes on a target when you balance the beanbag on your head’</td>
</tr>
<tr>
<td></td>
<td>‘What to do?’</td>
<td>‘What must you do to balance a beanbag?’</td>
</tr>
<tr>
<td>Applying</td>
<td>‘Show …’</td>
<td>‘Mary, show us balance on your two elbows and two knees’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘Please put the beanbag on your head and walk along the bridges, over the rivers and around the trees*’</td>
</tr>
<tr>
<td>Analyzing</td>
<td>‘How is [this] different from…?’</td>
<td>‘Is my balance good or bad? Why?’</td>
</tr>
<tr>
<td></td>
<td>‘Why would you not…?’</td>
<td>‘What is the difference between static and dynamic balance?’</td>
</tr>
<tr>
<td></td>
<td>‘Analyze…’</td>
<td></td>
</tr>
<tr>
<td>Evaluating</td>
<td>‘What should [someone] have done…?’</td>
<td>‘What should I do to keep my balance?’</td>
</tr>
<tr>
<td></td>
<td>‘Is it better to…or…?’</td>
<td>‘Where are you more stable, on 4 or on 3 points?’</td>
</tr>
</tbody>
</table>
Chapter 7. Teaching Physical Education through CLIL to young learners

| 'Why would you…?' | 'You are not staying still. Is that the right way to balance?' |
| 'Is that the right way to...?' |
| Creating | 'What will happen if...?' |
| "Everybody, make..." | 'Look at Elli’s balance. What will happen if she brings her hands closer?' |
| "Everybody, make a new balance on three points, in a middle level’ |

*simulations made by ropes and bottles

3.3 Communication

The challenge for both the PE and the English language teacher was to analyze and make the selected content linguistically accessible to learners without them losing their interest and motivation. In the planning process the link between the content and the cognition is the communication which consists of three parts, according to the language triptych of Coyle et al (2010): the language of learning (language learners need to access new knowledge and understanding when dealing with the content), the language for learning (the language needed to operate in the learning environment) and the language through learning (the extension of the language so that it becomes embedded in the learner’s repertoire).

The PE teacher was mainly responsible for the content specific vocabulary that learners needed to understand and learn while the English language teacher had to simplify it for learners to understand. There was no explicit pre-teaching of the vocabulary in English but the new vocabulary was presented in English through the teaching of the movement skills, as PE terminology. In the language of learning, apart from the movement skills’ and concepts’ names, learners were expected to learn and understand the cues (the critical elements) for the correct performance of movement skills, which were provided verbally by the teacher accompanied by physical demonstration. The language for learning concerned the rules of the games, the management protocols of the class (e.g. protocols in relation to the equipment, selecting partners and groups, entering and leaving the gym), the behaviour protocols in the form of using key words and phrases (i.e. ‘dribble is not allowed’) and were the same as those in the Greek PE lessons as well as answering questions verbally or responding physically to orders and reporting back. Finally, the language through learning consisted mainly of language emerging in the process of learning or providing feedback (e.g., when learners worked in small groups to prepare a sequence of skills’ presentation or tried to describe flashcards and new equipment). Examples of language learning in the stability unit are shown in Table 2.
3.4 Culture

The fourth C for Culture is described by Coyle et al. (2010) as awareness of self and ‘otherness’, developing intercultural understanding and global citizenship. In the PE through CLIL classes, as in all PE classes, the motor content of the lessons was used as a means to achieve the objectives of the Content Standards/Goals of the affective developmental domain of the PE syllabus such as safe practices, following rules, respect for individual similarities and differences, cooperation, team work, ethical behaviour, individual and social responsibility.

4. Teaching PE through CLIL

When planning the CLIL lessons, we took into consideration learners’ previous experience with the objectives and the activities, the materials and the teaching methods, the language and the necessary modifications to make it comprehensible to learners, as well as the assessment tools to be used and learners’ opportunities for developing their speaking skills. The PE teacher, apart from the selected content and the subject specific vocabulary also suggested adopting suitable teaching styles and techniques from the Greek PE lesson. The English language teacher presented her suggestions based on the EFL teaching principles and together the two teachers came up with a way to combine the two approaches with each complementing and learning from the other. Available materials, strategies, approaches and CLIL principles were all taken into consideration and especially the integration of the English language into the PE content as well as the balance between the two. In our case, it was very helpful that the EFL teacher taught English classes at this level and was therefore well informed as to both the language level of the learners and also the vocabulary and language they had already acquired. It is worth noting that while preparing the lesson plans, both teachers kept in mind the possible difficulties learners would encounter as the lesson would be conducted in English. A major factor in planning was to ensure that these difficulties would not take away from the fun and excitement that PE traditionally offers to learners (Emmanouilidou and Laskaridou, 2017). The methods, techniques and materials of teaching and evaluation which were used in the PE through CLIL lessons are described below:

4.1 Methods and Materials

A number of methods and materials were used in teaching PE to young learners of the 3rd Experimental Primary School of Evosmos via the CLIL method. These methods and
materials will be elaborated on in subsections 4.1.1 to 4.1.4 and include the use of TPR in the PE, the inclusion of teaching styles according to Mosston and Ashworth's Spectrum, cooperation techniques and ways of assessing in PE though CLIL.

4.1.1 TPR and PE

The coordination of learners’ physical movement with foreign language learning and speech was first proposed by Asher (1969) in his development of Total Physical Response (TPR), an innovative method for foreign language learning in the 1970s. TPR uses physical movement for learners’ reactions to verbal input in order to reduce student inhibitions and lower their affective filter (Richards and Rodgers, 2001). Asher stated that the above mentioned coordination produced rapid, non-stressful learning to understand a second language and develop listening comprehension and oral fluency. Lessons in TPR are organized around grammar and, in particular, around the verb. Instructors issue commands based on the verbs and vocabulary to be learned (Celestino, 1993). But as already mentioned, verbs for early PE content are analogous to fundamental movement skills and the core of the PE content for early primary school classes. What is more, among the guidelines for effective teaching to PE beginners is that of “explaining and demonstrating one new idea at a time ... and then providing feedback about the ways learners are moving” (Graham, 1992:65).

Mohnsen (2008) suggested the use of TPR, among other methods, (i.e. creation of supportive environment, cooperative learning and provision of information comprehensible to the students) to ensure the success of the non-English speaking and limited-English proficient students in native speakers’ physical education classes. This is because the teacher can communicate most of the fundamental motor skill vocabulary to the student by demonstrating each skill, using the vocabulary and having the students practicing the skill. Also, the use of TPR method in PE through CLIL requires children to be active listeners without depending on their academic skills.

However, apart from the above typical procedure of the TPR method, when more complicated words and concepts of the PE content were taught in early PE through CLIL lessons (e.g. fitness components, cardiovascular system etc), the teachers often had to be very creative in order to develop models for demonstration to render the content comprehensible. So, EFL techniques such as songs, rhymes and puppets were also used in the PE through CLIL class. Furthermore, the lyrics of English children songs were modified by the teachers to suit the needs of the PE class (see also Emmanouilidou and Laskaridou 2017), while
rephrasing and scaffolding were employed in every class to link new information to learners’ previous knowledge in order to make input comprehensible and context-embedded. Based on our experience, I would suggest that this method is perfectly suited for team teaching classes, for both PE and English language teachers, to demonstrate and give commands or explanations.

4.1.2 Teaching Styles from Mosston and Ashworth’s Spectrum

As already mentioned, the teaching methods applied to the traditional PE class in Greek were also applied to the PE through CLIL programme. Thus, teaching styles from the Mosston and Ashworth’s (2008) Spectrum, such as the reproductive styles command, practice, reciprocal and inclusive, and the productive style divergent discovery for eliciting responses were implemented with the adaptations imposed by the language needs of the learners. Besides, learners already knew how each style was applied since they had experienced them during the previous school year and the Greek PE lessons.

4.1.3 Cooperation Techniques

Cooperation techniques are instructional strategies that are often used to help children build listening, communicative, and teamwork skills. They are adjusted to suit students’ age and abilities for both PE and English language content. They are very useful strategies for assessing learners’ knowledge, performance and cooperation skills and children can work in pairs or small group. Below are some of the cooperative techniques used in the 2nd and 6th grade PE through CLIL lessons:

(a) Group assignment: Small groups of 4-5 children were required to put movements together in a sequence, like locomotor and stability skills, and perform them to a song’s lyrics. For example, in a fitness lesson the song ‘let’s keep fit’, which learners had been taught in the English language class, was used. They mimed the movements mentioned in the lyrics (e.g. ‘wash my teeth’) while they were asked to replace the action word ‘jump’ with four different movements of their choice (e.g. jumping jacks, knee lifts etc), every time they encountered it in the song. Then each group performed the choreography of the whole song which was assessed by the other groups according to specific criteria (e.g. number of movements, synchronization to the rhythm.)

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14 For more information about the Spectrum of Teaching styles see: Mosston, M. and S. Ashworth (2008). Teaching Physical Education (1st online ed.)
(b) **Quiz-quiz-trade:** It is a cooperative technique which was adapted to PE and to PE through CLIL lessons using flashcards with an activity picture and its name on it (Picture 1). This technique enhanced learners’ oral practice since they had to instruct their partners to do the activity shown on their cards (e.g. ‘do 10 sit ups’). After the partners performed each other’s command, they exchanged cards and, following the teacher’s instructions, they changed partners. Cards could be created either by the teacher or the learners themselves. In the latter case, learners’ creativity as well as English vocabulary acquisition were enhanced as both teachers could observe.

![Picture 1: Flash cards for Quiz-quiz trade technique](image)

(c) **Clock time questions:** It is a cooperative technique which is appropriate for listening tasks. Every learner, holding a pencil and a paper with a clock drawn on it, arranged an appointment with different classmates on each of the twelve hours of the clock. Then the instructor called out an hour (e.g. ‘one o’clock appointment!’) and asked learners to perform a physical activity (e.g. 30” plank/knee lifts/squats etc) and then to answer a question on the lesson objective (e.g. ‘what is the motif of skipping?’). The partners of the specific hour discussed and delivered the answer (‘step-hop’). With learners of higher grades (3rd and beyond) the answers were written on the back of the paper clock (Picture 2). Then the teacher called out another time appointment and so on. At the end of the activity the answers were discussed in the whole class or the clock papers were assessed by the teacher.
Concerning the materials used in the programme, these were adapted from both PE and English language classes. PE materials and consequently PE through CLIL materials, are mainly sport equipment, such as benches, mats, balls, cones and so on, which serve the achievement of the physical domain goals of the subject. So, these were new vocabulary for our young learners, even though the majority of them are known to them in Greek and few of them (i.e. balls and hoops) were also known since they had already been taught in the English language classes. As regards the cognitive materials teachers had to produce, such as task cards, worksheets, checklists, and rubrics for assessment, as well as PowerPoint presentations and videos, these were the same as those used in the traditional PE classes in Greek, with the PE and the English teachers adapting them to the learners’ linguistic needs and the objectives of the CLIL classes. Furthermore, EFL techniques such as the use of children songs, rhymes, and puppets, these were transferred to the PE through CLIL class, as already mentioned.

4.1.4 Assessment in PE through CLIL

Assessment, as an integral part of every teaching procedure, was embedded in every PE through CLIL class. The formative assessment was used as a means to enhance effective teaching and learners’ learning and development in both PE and the English language. Both teachers were always involved in the observation of learners and the provision of positive and
corrective feedback in order to encourage and support learners’ language comprehension and use as well as ensure the achievement of the appropriate learning outcomes.

Concerning the PE content assessment, observation was the main method through which the PE teacher filled in checklists or rubrics for learners’ achievement in motor and social skills, according to the critical elements of them, namely the cues for the correct performance of the skills. These checklists were also the data source for comparing the performance of CLIL learners with the performance of learners in the traditional PE classes in Greek.

In order to check language comprehension and content acquisition, a technique that was frequently used was questioning at the beginning, during, and at the end of the lessons while demonstration was encouraged by the teachers when learners were not able to respond verbally to questions. Also, physical responses to commands and guidelines confirmed the understanding of the learners. What is more, even though written tests could not be used in the first year of PE through CLIL implementation, written materials such as drawings based on oral instructions were used (i.e. ‘colour the child who dribbles the ball with his/her foot yellow and the child who punts the ball green’, or ‘tick the flexibility exercises’) or learners had to fill in the blanks with numbers of their own or partner score in the fitness tests with pictures. In the higher grades, apart from written tests, alternative assessment techniques were used, such as peer assessment or self-assessment via videotaped lessons (e.g., Picture 3). Event tasks completed and performed in one lesson, small group projects, and role play were used in PE through CLIL sessions as assessment methods to enhance language use and to assess motor performance as well as the understanding and learning of the relevant vocabulary.

![Picture 3: Sample of a peer-assessment checklist for Grade 4](image-url)
Chapter 7. Teaching Physical Education through CLIL to young learners

Finally, summative assessment was used to collect opinions and attitudes of learners and their parents via questionnaires and interviews at the end of each school year. Learners’ highly positive views and attitudes encouraged teachers and the school to continue and expand the implementation of the CLIL teaching approach in the following grades.

5. Conclusions

PE, as a school subject, is used often for the implementation of CLIL and appears to be perfectly suitable for this method (e.g., Rottmann, 2007; Machunsky, 2013; Coral and Lleixà, 2014). According to the National Curriculum for PE, the content and learning outcomes of PE classes should contribute to the holistic development of the child, using the movement as an end in itself (for learning motor skills) and as a means for cognitive, emotional and social learning. This principle for the design and implementation of PE classes has many similarities with the 4Cs design of the CLIL lessons. On the other hand, the use of movement in teaching a foreign language, especially to young learners, is a common technique in other teaching methods like TPR.

The implementation of CLIL in PE classes was initially piloted with the very young learners in the 3rd Experimental Primary School of Evosmos (grade 2) and was later expanded to all grades. The team-teaching model was adopted, with the PE and the English language teacher collaborating both for the design of the syllabus as well as for the teaching of the classes.

Difficulties that should be taken into account and dealt with concerned the maintenance of interest in one of the learners’ favourite school subjects. This became more demanding with the addition of foreign language use, the simplification of the English language in teaching very young learners as well as the teaching of difficult concepts of the PE content in the upper classes using a variety of methods and techniques. The consistent and smooth collaboration between the two teachers was necessary for the resolution of the above difficulties and the achievement of the dual purpose of the CLIL approach, learning PE content while learning a foreign language at the same time. It is clear that, these requirements also increased teachers’ planning time and workload. However, it was worthwhile, because it proved to be a very interesting way of teaching where the teachers learned from each other and had the opportunity to improve their teaching practices.

The benefits for learners were also seen to be important. The CLIL approach, despite its challenges, eventually raised their interest, enhanced their vocabulary, gave them the
opportunity to engage in experiential learning and motivated them to communicate in a foreign language. It is worth noting that the distinct program of the 3rd Primary Experimental School of Evosmos regarding the use of the English language facilitated the implementation of the CLIL through PE approach. Due to the nature of PE as a school subject the objectives of the CLIL approach were fulfilled and, we believe, can be applied in any school but only after careful planning by trained teachers.

References
Chapter 7. Teaching Physical Education through CLIL to young learners


Chapter 7. Teaching Physical Education through CLIL to young learners


Chapter 8. Scaffolding for CLIL lessons

Scaffolding for CLIL lessons

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Abstract
This chapter presents the role of scaffolding in CLIL teaching through a literature review as well as examples of scaffolding techniques used in CLIL lessons taught in an international school in Italy and during study visits of the Erasmus + project Promoting CLIL Implementation in Europe. The literature review will mainly draw on the work of psychologists Jerome Bruner and Lev Vygotsky on social and cognitive development and how these have influenced the work of succeeding scholars. The importance of scaffolding for quality CLIL materials will also be presented. Then there will be an analysis of the aforementioned CLIL lessons and the implementation of scaffolding techniques for each one. The particular section will be split into two parts and will include a variety of CLIL lessons which focus on learners of different age groups. The first part will consist of lessons within the familiar setting, an international school in Italy, whereas the second part will consist of lessons from three study visits to different schools participating in the project.

Keywords: CLIL; scaffolding strategies; Zone of Proximal Development; teacher-learner interaction; instructional scaffolding

1. Theoretical framework
The concept of scaffolding in education has been reviewed by many scholars over the past years and various beliefs have been expressed mainly highlighting the fact that children’s learning is “guided by others” (mainly adults) during engaging tasks and activities (Stone, 1998:351). Throughout the years, however, the definition of scaffolding in education has evolved into a methodology through which learners are taught how to perform tasks and reach their objectives, first with support, then, gradually, independently.
1.1 Instructional scaffolding and the Zone of Proximal Development (ZPD)

As a term, ‘scaffolding’ first appeared in literature in 1976 by Wood, Bruner and Ross who used the interaction that took place between a young child and their tutors during a problem solving activity as an example (McLeod, 2019). Scaffolding can take many forms and several scholars have shared techniques and activities throughout the years to support teachers when planning their lessons. Alber (2014) and Haynes (2015) suggested six scaffolding strategies:

1) Show and Tell- Modelling an activity or thought process to show the students exactly what they are expected to do

2) Prior knowledge- Encouraging students to share their knowledge, experiences and ideas about a concept or a topic while trying to relate it to their own lives;

3) Talking time- Students need to be given more time to express their thoughts verbally and this has to be tailored to each child based on their needs;

4) Pre-teach vocabulary- Introducing new vocabulary through visuals and context, then perhaps encouraging them to draw images of these words. Teachers can also use analogies or metaphors to support their learning. Group or whole-class discussions can take place and once all these are over, students may get dictionaries to find the actual definitions;

5) Visuals- Using photos, videos, graphic organizers and charts are very useful scaffolding tools;

6) Pause, Ask Questions, Pause, Review- This is a very important scaffolding strategy in which the teacher presents an idea or topic, pauses to give students time to think, then asks them pre-designed questions and finally pauses again for reflection time (Peery et al., 2013).

(Adapted from Alber, 2014)

Vygotsky’s work in 1978, when he presented the Zone of Proximal Development (ZPD), seen in Figure 1, was closely related to that of Wood et al. in 1976 on instructional scaffolding.
Scaffolding is usually associated with Vygotsky’s socio-cultural theory of cognitive development; here he explains that children’s cognitive development is enhanced through social interaction with others and in most cases a More Knowledgeable Other (MKO) including teachers, family members, tutors or peers (Fletcher, 2018; Psychology Notes HQ, 2019). He supports the idea that learners need the temporary aid of a MKO when performing a task or reaching a goal until they are confident and ready to take over.

Through the years, academics have found a link between Vygotsky’s work in 1978 and that of Wood, Bruner and Ross in 1976. According to the latter, there are six features that characterize the support that is provided to a learner which takes place with “a balance between demonstration and re-construction type of procedures, [and] provides the learner with both the motivational and cognitive support he/she needs to reach new understandings” (Coelho, 2017:107).

These features are:

1. Grasping the learner’s interest
2. Providing more simplified tasks and keeping them within manageable limits for the learner
3. Monitoring and making sure the learner is focused on the goal
4. Assessing significant elements and directing the learner’s attention to what is relevant
5. Controlling frustration and motivating the learner to finish their task
6. Demonstrating or modeling the solution for the task

(Wood et al., 1976).
Chapter 8. Scaffolding for CLIL lessons

In another educational context, Hammond and Gibbons (2001) identified three key features of scaffolding:

1. Extending understanding- aims to challenge learners through learning activities that will push them to go further and reach higher levels of competence and cognition than they would otherwise be able to reach on their own (Hammond and Gibbons, 2001, as cited in Coelho, 2017:107).

2. Temporary support- this refers to the temporary nature of any support offered to learners, which is taken away once they demonstrate the ability to work independently. It also refers to the customized and timely support each learner is provided with “at the point of need” (Hammond and Gibbons, 2001:17).

3. Micro and macro focuses- the voluntary ongoing interactions between learners and teachers that take place within the class setting, as well as the syllabus goals and activities/tasks which have been prepared by the teacher (Hammond and Gibbons, 2001, as cited in Coelho, 2017:107).

1.2 Scaffolding in CLIL teaching

CLIL has been defined as a methodological approach which includes activities where “a foreign language is used as a tool in the learning of a non-language subject in which both language and subject have a joint role” (Marsh, 2002:58).

According to Morgado et al (2015:26), scaffolding is “at the heart of all CLIL teaching” and it is important to choose support strategies carefully and appropriately in order to stimulate their knowledge which would be relevant to the content, as well as the foreign language (FL). When looking into scaffolding strategies in a CLIL context, the works of Walqui (2006), Meyer (2010, 2013) and Mehisto (2012) are key references.

Scaffolding for Walqui is a combination of “structure and process, weaving together several levels of pedagogical support, from macro-level planning of curricula over time to micro-level moment-to-moment scaffolding and the contingent variation of support responsive to interactions as they unfold” (Walqui, 2006:159). Since the CLIL approach has a dual focus, it is important to emphasize the fact that there is an additional amount of cognitive effort that needs to be put in learning content through a foreign language and therefore scaffolding is given particular importance in CLIL settings. In 2006 Walqui’s work on instructional scaffolding presented six important strategies (seen in Table 1) which aim at
developing the learners’ conceptual, academic and linguistic level within CLIL settings (Coelho, 2017).

Table 1: Types of Instructional scaffolding (adapted from Walqui 2006) in Coelho, 2017:111

<table>
<thead>
<tr>
<th>Types of instructional scaffolding (Walqui’s model, 2006)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modelling</td>
</tr>
<tr>
<td>Teacher provides clear examples for imitation</td>
</tr>
<tr>
<td>Bridging</td>
</tr>
<tr>
<td>Teacher creates bridges that build on previous knowledge and understandings</td>
</tr>
<tr>
<td>Contextualizing</td>
</tr>
<tr>
<td>Teacher adds context to academic language (films, images, realia, metaphors and analogies)</td>
</tr>
<tr>
<td>Schema building</td>
</tr>
<tr>
<td>Teacher provides thinking frameworks to help illustrate ideas (charts, advanced organizers)</td>
</tr>
<tr>
<td>Re-presenting text</td>
</tr>
<tr>
<td>Teacher presents the same content through using a variety of genres (represented as drama, narrative, report, exposition, tautological transformation, theory, poem, third-person historical narratives, eyewitness accounts, scientific texts, letters, cooperative posters, …)</td>
</tr>
<tr>
<td>Developing metacognition</td>
</tr>
<tr>
<td>Teacher develops students’ learning skills for planning, monitoring, and assessing</td>
</tr>
</tbody>
</table>

1.3 Developing Materials for CLIL Lessons

This section does not refer to the design of CLIL lessons within the scheme of work; it is, however, closely linked to it as scaffolding is a crucial aspect of planning for CLIL lessons. When creating learning materials for CLIL lessons, teachers can use authentic materials or documents adapted from different sources with various forms of media and in different formats. Throughout the development process, teachers must always keep in mind the dual focus of CLIL, and ensure that the materials address requirements for both content and language. In order to create materials of high standards for CLIL lessons, teachers need to also consider that these have to promote a safe and structured learning environment and at the same time challenge the learners cognitively (Morgado et al., 2015). According to Sharpe (2001), teachers can present a concept and at the same time develop their students’ understanding by:

- Questioning
- Creating lines of inquiry for class discussion usually based on student responses
Encouraging students to build on their knowledge or elaborating their thought process

In 2010, Meyer developed a framework which would set the quality criteria for effective CLIL teaching and learning. Like Walqui, he also believed that scaffolding plays a crucial role when teaching CLIL. Through his studies, he shares his view that by providing scaffolding for language and content in CLIL classes, the cognitive and linguistic overload of the subjects studied is reduced and therefore students are able to complete given tasks whilst improving their linguistic skills (Meyer, 2010, 2013; Coelho, 2017).

Meyer’s CLIL-Pyramid is a planning tool he devised for developing quality CLIL materials. Beginning with the Topic Selection, Meyer suggests that, as a starting point for material construction, teachers should consider the content of their lesson or unit. Then they move onto Choice of Media where the teachers’ input is multimodal and they include materials and activities that cater for all learning styles and individual needs. In this stage, teachers also focus on developing the students’ study skills. Moving up on the pyramid to the Task-Design, Meyer gives scaffolding the central role in supporting learners to move from lower-order to higher-order thinking skills (LOTS to HOTS). This is where students start to interact more and in different formats (groups, pairs etc). The final result of the lesson or unit will determine the amount and type of output scaffolding that is needed. Finally, the Clil-Workout consists of the review of all aspects of content and language within this unit (Meyer, 2013). In order to create CLIL materials of a higher standard, scaffolding strategies need to be taken into consideration in both central stages, Choice of Media and Task-Design.

In order for students to successfully start using authentic CLIL material and for the teacher’s input to become intake, it is vital that they receive a lot of support and that is the role of scaffolding (Meyer, 2013). Scaffolding can start being reduced when students’ language skills have developed and they can start focusing on the content of their messages. In the beginning, scaffolding is necessary as students' limited L2 competence limits their ability to express the content intended. Meyer (2013) suggests that scaffolding has numerous aims including:

(a) The reduction of the cognitive and language load;

(b) The fostering of support and structure which will encourage students to complete tasks and reach goals;
(c) The promotion of language skills in order for students to be able to verbalize their thoughts appropriately in respect to the subject. “In other words, scaffolding done right will boost students’ cognitive academic language proficiency (CALP)” (Meyer, 2013:299).

In turn, Mehisto (2012) recognises ten criteria for the development of quality CLIL materials. From Mehisto’s list, the following (adapted from Mehisto, 2012) are most relevant to scaffolding:

- The learning aims and process should be visible to students;
- Academic language competence must be nurtured in a systematic way;
- The development of learning skills which would lead to learners’ autonomy needs to be facilitated;
- Cooperative learning, including peer-peer, learner-teacher/adult cooperation, needs to be encouraged;
- New ways to include the use of authentic language need to be found;
- The fostering of “… cognitive fluency through scaffolding of a) content, b) language, c) learning skills development helping a student to reach well beyond what they could do on their own” is one of the most important criteria as it reflects the dual focus of CLIL methodology (Mehisto, 2012:24)

Mehisto’s study, “Criteria for Producing CLIL Learning Material,” provides examples for each criterion to further support CLIL teachers. For the final criterion above, that of fostering cognitive fluency, Mehisto provides a variety of activities to scaffold language, content and learning skills in CLIL contexts depicted in Table 2 below (adapted from Mehisto, 2012:24).

Table 2: Activities for scaffolding language, content and learning skills in CLIL

<table>
<thead>
<tr>
<th>Language can be scaffolded by:</th>
</tr>
</thead>
<tbody>
<tr>
<td>► Repetition of new nouns instead of using pronouns</td>
</tr>
<tr>
<td>► Creating shorter sentences and paragraphs</td>
</tr>
<tr>
<td>► Including synonyms of words in parentheses</td>
</tr>
<tr>
<td>► Giving the explanation or definition of key vocabulary in the margins</td>
</tr>
<tr>
<td>► Brainstorming relevant language</td>
</tr>
<tr>
<td>► Grouping language based on its use</td>
</tr>
<tr>
<td>► Presenting information or data in a table using different ‘ways of speaking’ (registers of language)</td>
</tr>
<tr>
<td>► Including use of electronic pronunciation and dictionary for challenging terms</td>
</tr>
<tr>
<td>► Using wordsmyth.com or wordchamp.com</td>
</tr>
</tbody>
</table>
Chapter 8. Scaffolding for CLIL lessons

<table>
<thead>
<tr>
<th>Content can be scaffolded by</th>
</tr>
</thead>
<tbody>
<tr>
<td>► Assisting students when they begin a writing task in order to access knowledge they have difficulty verbalizing and to make connections to personal experiences</td>
</tr>
<tr>
<td>► Providing advance organizing</td>
</tr>
<tr>
<td>► Using visual organizers including Venn diagrams, tables and charts (pie, bar etc)</td>
</tr>
<tr>
<td>► Avoiding the use of compound sentences</td>
</tr>
<tr>
<td>► Making paragraphs shorter</td>
</tr>
<tr>
<td>► Emphasizing on key facts by highlighting, underlining, circling etc.</td>
</tr>
<tr>
<td>► Using subheadings/subtitles</td>
</tr>
<tr>
<td>► Giving examples of possible answers or good work (or even at times your own work)</td>
</tr>
<tr>
<td>► Providing details that are both directly and indirectly linked to a concept</td>
</tr>
<tr>
<td>► Providing and using electronic links to animations, videos and other resources.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Learning skills can be scaffolded by</th>
</tr>
</thead>
<tbody>
<tr>
<td>► Giving students an example of a correct answer before they proceed with a task or exercise</td>
</tr>
<tr>
<td>► Displaying samples of good student work</td>
</tr>
<tr>
<td>► Sharing with students the comments of an example of student work that was not done very well</td>
</tr>
<tr>
<td>► Planning, monitoring and evaluating tasks</td>
</tr>
<tr>
<td>► Encouraging students to try and figure out the meaning of a word, concept or theme from the context</td>
</tr>
<tr>
<td>► Providing examples of online or electronic techniques for correcting errors</td>
</tr>
</tbody>
</table>

The aim of scaffolding is to gradually make learners more independent when approaching a task or objective; as Mariani (1997) pointed out, as human beings, it is important to become independent and responsible. On the other hand, he also mentioned the need for dependence in order to feel part of a group and have a sense of belonging and this is the reason why it is important to create a safe environment for learners, irrespective of their age. According to Mariani (1997) and van Lier (1996), the only way to learn to become autonomous is to learn how to handle autonomy and dependence based on personal needs.

2. Examples of Scaffolding in CLIL Lessons

In this part of the paper, scaffolding strategies will be presented through CLIL lessons designed and taught in different CLIL settings. It will be split into two main sections, one which will focus on lessons taught in an international school in Italy and another which will focus on lessons taught during study visits to the schools of the partner countries - Greece, Romania, the Czech Republic and Lithuania.
Chapter 8. Scaffolding for CLIL lessons

2.1 CLIL in our school

This part focuses on three different lessons taught in Grade 5. The teacher had the particular class when they were in Grade 3 so both teacher and students were already familiar with each other. The following lessons were taught during the final study visit in Italy.

The first lesson in question that of Science in Grade 5 (See Table 3 for an overview and Appendices 1a-1c for a more detailed view) can also be found at www.clilprime.com

<table>
<thead>
<tr>
<th>Subject</th>
<th>Science (Biology)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic</td>
<td>The Digestive System</td>
</tr>
<tr>
<td>Students’ age</td>
<td>10-11</td>
</tr>
<tr>
<td>Scaffolding strategies</td>
<td>・ Sharing prior knowledge ・ Educational video with frequent questioning ・ Modelling of activities-clear instructions ・ Groupwork with visual on the whiteboard to support them ・ Presentation of work ・ Link to personal experiences</td>
</tr>
</tbody>
</table>

Scaffolding in the Science lesson took place during the first four stages of the lesson (See Appendix 1b):

Stage 1: Through questioning, students would share their prior knowledge. Some students also shared information from personal research or experiences relevant to the topic. This was a good time for repetition of key vocabulary and an opportunity to explore the definitions to scaffold language.

Stage 2: During the video (See Appendix 1b), the teacher would stop and ask questions to reinforce students’ learning in preparation for the following activities. Here the teacher encouraged students to identify important facts that they considered relevant to the topic as well as share personal experiences. One student shared a fact about the stomach which she obtained from her mother who was a doctor. After the particular lesson took place the mother was asked to come and speak to the class about the digestive system. The students seemed confident to ask more ‘proficient’ questions as she was a doctor. Providing the students with the opportunity to acquire information from a professional who specializes in a

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15 To view the appendices the reader is invited to visit http://bit.ly/2MDPZsl
particular topic of their studies is also an effective scaffolding strategy. In this way the students develop their language skills by trying to form appropriate questions, as well as listen for key vocabulary and information relevant to the content.

Stage 3: For the labelling activity (See Appendix 1c- Worksheet 1), the teacher gave clear instructions on the activity and allowed students to work independently. In this stage scaffolding started to fade as the students were given the visual aid on the worksheet and the board, and they mainly had to remember the key vocabulary in order to complete the task.

Stage 4: For the group activity, students had to make a poster or replica of the digestive system. At this point they were given more freedom as to how they should create their digestive system and what materials they would have to use. The instructions mainly focused on the interaction between group members and the sharing of materials provided.

During the study visit, Stages 5 and 6 did not take place due to lack of time, as students spent more time making the posters. If there is a time limit during Stage 4, then in Stage 5 students present their work as a group and in Stage 6 the teacher assigns their homework, giving clear instructions regarding the expectations as well as giving examples of possible answers for both the research worksheet (See Appendix 1c- Worksheet 2) and the creative writing worksheet (See Appendix 1c- Worksheet 3). By this point the students will most likely feel confident in approaching the tasks independently.

The second lesson, namely History in Grade 5 (See See Table 4 for an overview Appendices 2a-2c) can also be found at www.clilprime.com.

<table>
<thead>
<tr>
<th>Subject</th>
<th>History</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic</td>
<td>Minoan Palaces</td>
</tr>
<tr>
<td>Students’ age</td>
<td>10-11</td>
</tr>
</tbody>
</table>
| Scaffolding strategies | - Sharing prior knowledge using visuals (i.e. map)
  - Use of PowerPoint with many images
  - Modelling of activities- clear instructions
  - Videos
  - Link to life today |

Table 4: History lesson overview

Scaffolding in the History lesson took place in all stages of the lesson (See Appendix 2b):
Chapter 8. Scaffolding for CLIL lessons

Stage 1: Using a map as a visual prop scaffolding took place through questioning of their prior knowledge in preparation for the rest of the lesson.

Stages 2-5: The use of a PowerPoint supported students through multiple visuals including images and videos. When shown these images and videos, students were asked to share any details they noticed which would link to the unit or even to the present day and personal experiences.

In Stage 2, students were asked to make their own blueprint/floorplan of a Minoan palace. The teacher drew her own example on the board without pointing out important details and encouraged them to make connections with what they had learned. The teacher was able to scaffold the students’ learning skills by providing them the correct answer while challenging them by asking them to think about why that answer is correct. In this lesson, a student did not follow the instructions carefully and chose to design something different. In such cases it is important for students to feel that they can be creative but they also have to be reminded to follow instructions; therefore, instructions must be repeated more clearly and if necessary with simpler vocabulary or supported with more examples.

Stage 6: If class time is limited, the rest of the worksheet can be assigned for homework (See Appendix 2c).

As far as the third lesson is concerned, namely Maths in Grade 5 an overview of the lesson is presented in Table 5 below while more details can be seen in Appendices 3a-3c.

Table 5: Maths lesson overview

<table>
<thead>
<tr>
<th>Subject</th>
<th>Maths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic</td>
<td>Powers of 10</td>
</tr>
<tr>
<td>Students’ age</td>
<td>10-11</td>
</tr>
<tr>
<td>Scaffolding strategies</td>
<td>● Sharing prior knowledge through questioning to obtain key vocabulary and definitions ● Visuals on a PowerPoint ● Repetition of key vocabulary and questions ● Modelling of activities- clear instructions</td>
</tr>
</tbody>
</table>

The scaffolding that took place during this lesson was mainly in the form of repetition. Even though the MKO was initially the teacher, gradually the peers ended up
taking on that role which, as the teacher observed, led to them feeling more confident when approaching the independent activities (See Appendix 3b).

Stages 1 and 2: The PowerPoint was used to reinforce their prior knowledge, as well as support them using visuals of their new topic.

Stage 3: Since scaffolding was quite strong in the previous two stages (as well as the previous lessons), all students were able to work independently to complete the first task (See Appendix 3c- Worksheet 1).

Stage 4: In this stage, the teacher linked the current topic (powers of 10- expanded form) to a previous topic (partitioning of numbers) and used repetition to support their learning. Students were encouraged to come to the board and give examples or solve calculations they were given. In this case, both the teacher and the peers become the MKOs for the rest of the class.

Stage 5: In this stage, all students were able to approach the task confidently, regardless of the final result (See Appendix 3c- Worksheet 2).

Stage 6: This final stage was an extension of what they had learned. The teacher modelled the activity for the students and invited students, in turns, to demonstrate the activity on the whiteboard. When the teacher saw that some students were struggling, the former modelled the task again and repeated the instructions clearly.

2.1.1 Reflection

Scaffolding in the familiar setting was more evident due to the fact that the teacher was able to see students’ progress in the following lessons of the unit. The factor of familiarity played an important role as the teacher was able to tailor the strategies that were needed for each student individually. Students responded positively in terms of the support that was provided during these lessons. Although activities were not differentiated, some students were given more time to complete a task or received differentiated questioning. Some of the students needed more thinking time than others, mainly due to language limitations. Even though the school is an international one in Italy, the majority of the students are Italian from non-English speaking families and therefore, some of the students are not so confident using English (L2) fluently. This, at times, holds back students who can access the content but are not able to share their thoughts in the L2. Most of the students who lacked the confidence started feeling more comfortable speaking English (L2) without relying so much on Italian (L1).
Chapter 8. Scaffolding for CLIL lessons

2.2 CLIL during study visits

This part focuses on CLIL lessons taught during three study visits to schools participating in the project: The schools were in Greece, Romania and the Czech Republic. They have been chosen on the grounds that they address different topics and age groups. The teacher had observed each group of students at least twice with their regular class teacher in order to gain an understanding of the group dynamics and any particular needs that had to be taken into consideration.

An overview of the first lesson that concerns Geography taught during the study visit in Greece is provided in Table 6 while a more detailed view of its content is provided through Appendices 4a-4c.

Table 6: Overview of Geography lesson in Greece

<table>
<thead>
<tr>
<th>Subject</th>
<th>Geography</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic</td>
<td>Tectonic Plates and Boundaries</td>
</tr>
<tr>
<td>Students’ age</td>
<td>10-11</td>
</tr>
</tbody>
</table>
| Scaffolding strategies | ● Sharing of prior knowledge  
                          | ● Use of PowerPoint with visuals  
                          | ● Questioning and repetitive language  
                          | ● Group work  
                          | ● Visuals on the notes distributed to support them  
                          | ● Students’ presentation of group work to the rest of the class and teacher  
                          | ● Link to personal experiences. |

An updated version of the lesson has been included in this chapter (See Appendix 4b).

Stage 1: The teacher wrote 3 key questions on the board (‘What are natural disasters?’, ‘How are they caused?’, ‘How do they affect mankind or the environment?’) as a visual aid for the students to answer at the beginning of the lesson. They were encouraged to reflect on their answers as these could have changed based on what they learned during the lesson. As the PowerPoint began, students were shown images of natural disasters and a video of a recent earthquake that took place in New Zealand in order to gain a better understanding of the concept. The use of videos was beneficial when scaffolding content as the students were able to visualize the concept and its key vocabulary.

159
Chapter 8. Scaffolding for CLIL lessons

Stage 2: In this stage the teacher made a clear distinction between natural disasters that occur due to the tectonic plates and boundaries (earthquakes, tsunamis etc) and those that are caused by the weather (hurricanes, snowstorms, etc). By showing them a map of the tectonic plates and boundaries, students were given visual aid of what exists under the crust of the Earth. The main scaffolding strategy used during the first two stages was the use of visuals on a PowerPoint.

Stage 3: The teacher continued to use visual aid on the board and at the same time provided materials (notes, worksheets and map) to each student as support for their independent activity (See Appendix 4c). Students were encouraged to read through the notes on their own in order to retrieve the relevant information. Then they were asked to examine the map given to identify tectonic plates and boundaries. Scaffolding of content and learning skills took place when students were asked to highlight key facts to support them with their worksheet and map. In this stage scaffolding by the teacher was reduced significantly and the students started to become more independent in preparation for the following activities.

Stage 4: At this stage both the teacher and peers acted as MKOs due to the nature of the assessment. If a student responded incorrectly, then either the teacher or a peer shared the answer and, if needed, provided more information. In such cases, it is important that the teacher tries to encourage the particular student to find the explanation through questioning (‘Why is this answer not correct?’ ‘What would happen if...?’) or by using the available resources.

Stage 5: Here students were asked to work as a group, whilst being reminded of the rules of teamwork. Clear instructions regarding the expectations of the task were given in order for them to proceed confidently in their groups. Even though scaffolding by the teacher may be reduced or even removed during the main activity, peers may act as a support for each other.

Stage 6: This stage is the following lesson where students present their work and the rest of the groups and the teacher evaluate the posters. Teacher and students act as MKOs during the evaluation/feedback stage, with the teacher modelling correct use of feedback. Peer assessments are provided for each group and self assessments for each student (See Appendix 4c- peer and self assessments).

An overview of the next lesson that concerns Maths taught during the study visit in Romania is provided in Table 7 while a more detailed view of its content is provided through Appendices 5a-5c.
Table 7: Overview of Maths Lesson in Romania

<table>
<thead>
<tr>
<th>Subject</th>
<th>Maths (with elements of Biology)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic</td>
<td>Measurement - Length/Height</td>
</tr>
<tr>
<td>Students’ age</td>
<td>7-8</td>
</tr>
</tbody>
</table>
| Scaffolding strategies          | • Modelling (warm-up and measurement)  
                               | • Questioning and repetition of vocabulary 
                               | • Sharing of prior knowledge through warm-up activity 
                               | • Images (sorting out activity) 
                               | • Modelling and clear instructions 
                               | • Link to personal experiences |

In this lesson, scaffolding was mainly through modelling and questioning with the teacher being the main MKO (See Appendix 5b).

Stage 1: Due to the fact that there were elements of Biology in this lesson, the teacher chose to demonstrate a warm-up stretching exercise, which the students then copied. After the exercise, the students took turns sharing their prior knowledge on the topic (human body).

Stage 2: In this stage the teacher gave students the opportunity to work as a group giving up the role of the MKO. Peers then took on that role and since the groups were of mixed abilities, some were able to support others whilst using the visual aids provided for that activity. Peer interaction was a key element for this activity as well as for the main activity in Stage 4. The students were using mainly L2 (English) and that also supported the development of their language skills.

Stage 3: Scaffolding took the form of questioning, which seemed to have been a successful way of leading them into the main activity and fostering their enthusiasm, which is an important factor in every lesson. By repeating relevant vocabulary or using synonyms supports not only their content learning but also their language skills as they are introduced to new terminology which they can apply to future lessons.

Stage 4: For the main activity of the lesson, the teacher, through modelling, was able to show students how to measure each other’s height correctly. Students were shown the wrong way of measuring one’s height and they in turn had to identify the error and explain why it was incorrect while demonstrating the correct use of the measuring tape.

Stage 5: In the final stage students were asked to give feedback on their findings. A quick link to their previous topic (weight) also took place. Here the teacher modelled the use of proper vocabulary by reminding a student who called himself *fat* that this word would not
be the best word to describe someone. It is important to remind the students of the benefits of individuality and encourage them to share their thoughts on the matter.

An overview of the yet another lesson that concerns Science taught during the study visit in the Czech Republic is provided in Table 8 while a more detailed view of its content is provided through Appendices 6a-6c.

### Table 8: Overview of Science Lesson in the Czech Republic

<table>
<thead>
<tr>
<th>Subject</th>
<th>Science (Biology)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic</td>
<td>Moving onto Land (Evolution of amphibians)</td>
</tr>
<tr>
<td>Students’ age</td>
<td>12-13</td>
</tr>
<tr>
<td>Scaffolding strategies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● Sharing prior knowledge</td>
</tr>
<tr>
<td></td>
<td>● Questioning and repetition of key vocabulary</td>
</tr>
<tr>
<td></td>
<td>● Paired talk</td>
</tr>
<tr>
<td></td>
<td>● Visual aids (PowerPoint)</td>
</tr>
<tr>
<td></td>
<td>● Link to personal experiences</td>
</tr>
<tr>
<td></td>
<td>● Example of personal work</td>
</tr>
<tr>
<td></td>
<td>● Presentation of group work</td>
</tr>
</tbody>
</table>

Scaffolding was more challenging during this study visit as the students were of an older age and all strategies had to be adapted. The teacher had to be flexible in order to teach an age that they were not familiar with. Flexibility is very important when planning scaffolding for CLIL, as teachers have to be ready to adapt lesson plans for different reasons including age of students, individual needs and even class size.

**Stage 1:** The teacher tapped into students’ prior knowledge on two different concepts (timelines vs life circles and amphibians) through questioning and paired talk. When talking about events that took place between the Big Bang and the present day, the teacher demonstrated the use of the past tense to encourage the use of correct language when talking about the past (‘You mentioned the first fish, does that mean that fish ‘evolved’ into amphibians?’). In a frog’s life cycle we see many changes happening and in each stage the frog ‘turns’ into or ‘evolves’ into something else’) (See Appendix 6b).

**Stage 2:** In this stage the teacher tried to relate the topic to their personal experiences or culture. For example, in one of the slides the teacher showed them a fossil (visual aid) which was found in the Czech Republic. The students were also encouraged to participate in group discussions and were asked questions to promote the repetition of key vocabulary.
Chapter 8. Scaffolding for CLIL lessons

Stage 3: Here the teacher continued to repeat key vocabulary while asking them to share what they notice on the visual aids and when they compare main concepts (life cycle and timeline). This stage had positive results as the majority of students began to feel more confident and comfortable to participate in the activity.

Stage 4: In this stage as their main activity, students were asked to create their own amphibian in groups. The teacher showed a picture of the first amphibian and discussed the meaning of the name. She then explained that many scientific words have Greek roots and that they would be using some to name their amphibian. The explanation or review of base words and their meanings are a vital part of scaffolding vocabulary in every subject (Bennett, 2019). The teacher had also prepared an original example of an amphibian as support for the main activity. The teacher demonstrated the way the products should be presented and gave clear instructions for the expectations. The students appeared to work collaboratively in their groups and were left to work without adult support.

Stages 5 and 6: In these stages the students presented their work having followed the teacher’s previous demonstration. The lesson ended with a prediction of the evolution of amphibians by some of the students.

2.2.1 Reflection

Since the teacher was not able to teach these three classes in the following lessons, progress could not be monitored by that same teacher in order to get evidence of the impact of scaffolding. The feedback that was received after each of these lessons was positive, particularly in terms of scaffolding strategies. Even though the factor of familiarity was not there, the teacher was able to prepare appropriate scaffolding strategies and re-designed what she had planned, when needed. When teaching a class that is not their own, teachers and students need some time to become familiar with one another. Once a good rapport has been established, scaffolding can take place smoothly. When teaching a group of students for the first time, it is important to remain open-minded and flexible when faced with challenges or changes in the lesson plan. This way students can be catered for in the most effective way possible and according to their learning habits and strategies they are familiar with.

3. Conclusion

When planning scaffolding for activities or tasks, especially in CLIL lessons, the needs of each individual learner must be taken into account. Due to the duality of the focus
the CLIL methodology has, teachers face greater challenges when planning and teaching lessons because the students access content whilst learning a foreign language. This means that both educators and learners need to use pedagogical tools to make sure that both components are developed equally. When planning for CLIL lessons or units, teachers have to remember that the scaffolding strategies which they include are there to support learners and at the same time encourage them to go further. Teachers need to be flexible and prepared to change their scaffolding strategies in order to provide quality support for their students. In conclusion, scaffolding should be planned to make sure that learners, at their own pace, become more independent when completing tasks and confident when using a foreign language to access and manage the content of a lesson or unit.

References
Chapter 8. Scaffolding for CLIL lessons


Chapter 8. Scaffolding for CLIL lessons
