

To CLIL or not to CLIL?

The Case of the 3rd Experimental Primary School in Evosmos

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Abstract

This paper aims to present the implementation of CLIL method in Greece as a pilot project in the 3rd Primary School in Evosmos - Experimental School of the School of English in the academic year 2011-2012. This is Greece's first official attempt to introduce CLIL in state primary education. The subject taught through the CLIL method was Geography and for the purpose of this study we examined the effect of CLIL instruction on (a) learners' language competence in English, and (b) their content (subject) knowledge. 51 sixth-grade students (11-12 years old) took part in the study; the control group (non-CLIL) consisted of 25 learners while the remaining 26 learners formed the experimental group (CLIL). The results of our study indicated both language and content gains for the CLIL learners involved and thus seem to support the continuation and extension of the project to other Greek primary schools.

1. Introduction

Content and Language Integrated Learning (henceforth CLIL) has recently emerged in Europe as a popular method of teaching which is expected to improve foreign language competence and motivation of learners across all educational sectors. According to Eurydice (2012: 39), Greece is still one of the very few European countries which have not adopted CLIL as a mainstream form of teaching and learning:

‘In 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’ (Eurydice 2012: 39).

This article aims to present and discuss the application of CLIL method in Greece as a pilot project in a state primary school in the northern region of the country. This is, in fact, Greece's first official attempt to introduce CLIL in state primary education.

2. CLIL: rationale and objectives

According to Coyle, Hood and Marsh (2010: 1), ‘CLIL is a dual-focused educational approach in which an additional language is used for the learning and teaching of both content and language’. This means that in the teaching and learning process, the emphasis is not exclusively on the language – as it would be in a language class – nor exclusively on the content – as it would be in the case of a subject class. Although the focus may shift from language to content and vice versa according to students’ needs, both are expected to receive equal emphasis and both are interwoven with each other (ibid). CLIL provides the opportunity to students to learn a subject through a foreign language and to learn a foreign language by studying a subject. In this respect, CLIL is a form of bilingual education which aims to provide a bilingual experience for the pupil, even if only for a limited part of the school curriculum.

At the European level, interest has been rapidly growing in CLIL, which, according to experts, carries with it many benefits for pupils and teachers. This interest is related to Europe’s efforts to promote multilingualism and improve foreign language learning among its citizens. To this aim, most European governments decided (a) to lower the starting age of learning a foreign language, and (b) to implement CLIL programmes (Lasagabaster 2011). Their implementation has been further supported by researchers who claimed that even if the traditional foreign language programmes are of very high quality, the goals achieved cannot be expected to be impressive, as the time allocated to L2 instruction within the school curriculum is usually quite limited (Muñoz 2008: 590). CLIL provides exposure to the target language through the instruction of subject matter that is already present in the curriculum. Thus, exposure to L2 is increased without overburdening the school curriculum with extra language classes. Apart from that, the amount and quality of language input in a CLIL programme varies considerably from that in a traditional EFL context and this is expected to impact positively learners’ proficiency (ibid).

The objectives of the CLIL provision are mainly (a) socioeconomic, that is, to increase European citizens’ employability in a more internationalized society; (b) sociocultural, aiming to boost pupils’ tolerance and respect towards other cultures; (c) linguistic, that is, to develop learners’ language skills for effective communication in a variety of contexts, and (d) educational: to help learners develop subject-related knowledge and study skills (Eurydice 2006: 22). Thus, underlying EU initiatives in the field of CLIL is the belief that young people should be more effectively prepared for the (multi)lingual and cultural requirements of a Europe in which mobility is expanding (Eurydice, 2006: 55).

2.1. Main characteristics

CLIL is an umbrella term, as it embraces a wide range of bilingual education programmes and a variety of regional, heritage, minority, immigrant and/or foreign languages (Lorenzo, Casal and Moore 2009: 419). As such, it has many common characteristics to share with bilingual education, Content Based Instruction and immersion approaches, but it also possesses some unique characteristics:

(a) CLIL is adopted mainly for the teaching and learning of foreign – not second – languages or lingua francas (e.g., English). It is thus implemented in countries where learners generally share the same L1 and do not have the opportunity to be exposed to

the target language outside the classroom (Dalton-Puffer 2011). In Europe, in particular, CLIL is used mainly for the teaching and learning of foreign languages.

(b) It is an integrated approach, where both language and content are integrated in a balanced way.

(c) Subject matter is the driving force behind regular CLIL programs. 'CLIL lessons are usually timetabled as content lessons (e.g., biology, music, geography, mechanical engineering), while the target language normally continues as a subject in its own right in the shape of foreign language lessons taught by language specialists' (Dalton-Puffer 2011: 184). In other words, CLIL is a content-driven approach.

(d) CLIL is a cross-curricular or interdisciplinary approach to learning and aims to enable learners to use their critical thinking in order to integrate, use and transfer newly acquired knowledge (Darn cited in Pistorio 2010: 3). To this aim, close cooperation between content and language teachers is necessary for CLIL to be effective, as both language and content objectives have to be specified and decided upon. Thus, the CLIL curriculum will include both linguistic and content-area goals and a specific topic or theme can be approached from different perspectives, that is, through different subjects in the school curriculum.

(e) The integration of content and language with cognition and culture is at the core of CLIL pedagogy. Apart from language and content-related skills, CLIL also promotes thinking skills, as well as cultural awareness and intercultural communication skills.

(f) Finally, as far as learners are concerned, CLIL promotes cooperative learning (Jacobs and McCafferty 2006, Pistorio 2010) and learners are expected to learn better when working in pairs or groups.

All the above characteristics have been taken into account in the design and implementation of CLIL instruction in the context of our study.

2.2. Theoretical perspectives

Second language theories which support the implementation of CLIL programmes include Krashen's Comprehensible Input Hypothesis (1985), Swain's Output Hypothesis (1985), Long's Interaction theory (1996), and Cummins' (1980, 1984, 1992) theory of BICS (Basic Interpersonal Communication Skills) and CALP (Cognitive Academic Language Proficiency).

Krashen contends that exposure to comprehensible language input is a necessary and sufficient condition for foreign language learning (1985) and that learners will be able to produce the language spontaneously as a result of this exposure. His position was later criticized as research indicated that there is a need for a much greater focus on form (see Doughty and Williams 1998). Even in the immersion education context, researchers, such as Lyster (1998), have underlined the importance of formal instruction for learners' L2 development. CLIL learners are obviously exposed to rich L2 input in a meaningful context, but as CLIL is a method which integrates content and language, there is inevitably a need for a parallel focus on the language forms learners produce.

Other hypotheses which are useful in the context of CLIL include Swain's Output Hypothesis (1985), which underlines the necessity for maximized opportunities for language practice and production-both oral and written. Swain's hypothesis emphasizes the importance of accuracy in learners' production and she, therefore, stresses the importance of paying attention to formal elements of the language. With respect to the CLIL teaching context, learners are required to focus on both content and language and are 'pushed' to use appropriate and accurate language using their

available linguistic resources in order to express subject-related concepts. In this way, both content and language learning can take place in a balanced way effectively.

Long (1996), among others, argued that conversational interaction is an important, if not sufficient, condition for second language acquisition. Interaction involves modification of interlocutors' speech which helps them understand each other; in other words, Long emphasized the importance of modified interaction which renders input comprehensible. In CLIL classes, interaction and negotiation of meaning among learners and between learners and teachers are basic components of every lesson as they enable learners to comprehend the information presented by participating in conversations and modifying their speech through simplifications, elaborations, explanations, etc.

Finally, Cummins' conceptualization of language proficiency has been particularly important for bilingual education programmes. Cummins (1980, 1992) 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 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.

Apart from SLA theories underpinning the CLIL method, there are other general learning theories that provide a robust theoretical support to this method. These are mainly cognitive and constructivist theories. In particular, the Cognitive Learning theory supports the use of cognitively engaging tasks in order for learners to develop their problem-solving skills and critical thinking while constructing new knowledge (Anderson 1993). The Cognitive Constructivist theory (Piaget 1963, Bruner 1990) claims that new learning needs to be connected to prior learning within a meaningful context in order to be acquired successfully, while the Social Constructivist theory 'emphasizes the collaborative nature of learning' (Pistorio 2010: 3). The influence of those theories can clearly be seen in the implementation of CLIL method which promotes the gradual progression of meaningful but also linguistically-appropriate communicative tasks from less to more cognitively-demanding ones, always working with student's existing knowledge (Bennett and Dunne 1994). Collaboration and social interaction are essential components for successful learning in all CLIL contexts.

2.3. Benefits and concerns

As a form of bilingual education, CLIL programmes are expected to carry some at least of the advantages of bilingual education as these have been suggested and analysed by Cummins (1984). CLIL teaching has been claimed to benefit linguistic, cognitive and metalinguistic skills. Gains in learners' language development and improved language fluency in CLIL teaching contexts seem to result (a) from their systematic exposure to increased L2 aural and written input – both quantitatively and qualitatively, and (b) from opportunities for increased intake and output. Learners need to use the L2 for both communication as well as for didactic purposes in class, and thus, they practice; they learn the language while they try to understand, process and exchange new information that deals with a particular content (Dalton-Puffer 2007). At the same time, language is used meaningfully and purposefully; it is not learned for the sake of learning it but for the sake of using it (Dalton-Puffer and Smit 2007, Coyle *et al.* 2010). In this respect, CLIL provides a context for naturalistic language learning. It is similar to native language acquisition, as most learning seems to take place informally and incidentally, and not through explicit language instruction. When interviewed, CLIL teachers themselves reported that CLIL teaching improves learners' L2 skills and especially their interactive skills, as they are able to participate in conversations and respond appropriately (Morgan 2006). With respect to their cognitive skills, Greene, Pearson and Schoenfeld suggest that a range of functional strategic skills seem to develop in the CLIL context and, more particularly, a 'move from an automatic to a deliberate level of analysis and action' (1999: 145). In particular, learners seem to seek connections between ideas, take responsibility for learning and take multiple perspectives (Morgan 2006). Finally, Cook (1992), Dörnyei (1995), Johnson and Swain (1997), Baker (2001) and Bialystok (2002) have suggested that students' exposure to CLIL instructional context results in improved metalinguistic skills, greater mental flexibility, better fluency and interactive skills, increased use of strategies and a broader range of vocabulary.

CLIL method is not without its critics. A number of concerns have been voiced in several European countries with respect to the introduction and implementation of CLIL programmes. These are related mainly to the lack of appropriate teaching materials and to the shortage of teachers trained in CLIL instruction. As Mehisto, Marsh and Frigols (2008: 21) point out, this is a typical case of an educational innovation which outpaces teacher education provision. The question of whether it is the subject teacher who will be teaching their subject in another language or the language teacher who will be teaching a subject unrelated to his/her expertise in the foreign language is a related issue of concern. A tentative solution is that proposed by EU which aims to improve the quality of training for language teachers by 'encouraging the exchange with Member States of higher education students working as language assistants in schools, endeavouring to give priority to prospective language teachers or those called upon to teach their subject in a language other than their own'. (Eurydice, 2006: 8). Mehisto, Marsh and Frigols (2008) propose similar solutions and claim that networking and cooperation among teachers, universities and teacher organizations is essential.

Finally, parents have voiced their own concerns about CLIL programmes. Their major concerns regard their children's native-language skills and their performance in CLIL classes. In particular, they seem to believe that increased exposure to L2 input as well as acquisition of subject-related terminology in L2 will have a negative impact on the development of learners' mother tongue. They are also concerned that non-

CLIL learners will outperform their children since the former study all subjects in their native language.

As a matter of fact, research aiming to compare CLIL and non-CLIL learners' content acquisition does not support such concerns. On the contrary, far from interfering with content acquisition, CLIL can actually facilitate it and students in CLIL programmes often outperform their peers in regular programmes on first-language reading, writing and listening tests. To some of these studies we will now turn.

3. Research in CLIL

Research in CLIL has focused on a variety of issues related to the implementation of the method. A large number of those studies have been interested in investigating the impact of CLIL practice on learners' L2 development and content knowledge. Other studies looked into the influence of CLIL on learners' cognitive skills and motivation. We are going to briefly present the results of those studies which aimed to investigate the gains CLIL learners may have when compared to their peers who follow traditional mainstream school programmes with regard to (a) their target language performance and (b) their content knowledge, as these are the two main foci of our paper.

With respect to the target language development, studies have indicated that CLIL practice has a positive impact on foreign language learning in both primary and secondary educational contexts (e.g., Serra 2007, Van de Craen, Mondt, Allain and Gao 2007, Lasagabaster 2008, Lucietto 2008, Ruiz de Zarobe 2008, Kjellén Simes 2009, Lorenzo, Casal and Moore 2009). Van de Craen et al. (2007) have stressed that the positive impact of CLIL on L2 development is more consistently found in primary education than in secondary education. In an interesting paper, Dalton-Puffer (2008) reviewed the language-learning outcomes from CLIL practice in German-speaking countries as follows:

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

(Dalton-Puffer 2008: 5)

Table 1. Language competencies favorably affected or unaffected by CLIL

With respect to the language learning skills, the receptive skills (i.e. reading and listening) are the ones most positively influenced from CLIL, as shown by studies in various European countries (e.g., Lasagabaster 2008); this may be the result of learners' extensive exposure to the written and spoken language in CLIL contexts. As far as the productive skills are concerned, studies have yielded inconsistent results. Dalton-Puffer (2008) suggests that writing skills, in particular, do not seem to be positively influenced by CLIL (see Table 1); other studies, however, with upper-

secondary learners in Sweden (Kjellén Simes 2009), in the Basque country (Lasagabaster 2008) and in Vienna (Ackerl 2007) have indicated a positive influence of CLIL practice on the development of adolescent learners' writing skills. Oral skills, on the other hand, seem to be clearly benefited as studies by Serra (2007), Ruiz de Zarobe (2008), and Dalton-Puffer (2008, 2011) prove. In particular, CLIL learners, as compared to their non-CLIL peers, tend to be more fluent in the L2 in various educational and cultural settings. Their use of L2 is creative, they are willing to take risks and experiment with the language in meaningful and challenging ways.

With respect to vocabulary and grammar, vocabulary development – both receptive and productive – seems to be clearly benefited in CLIL contexts (Dalton-Puffer 2008, Xanthou 2010) and CLIL learners have better mastery of some morphological elements of the language (Villareal Olaizola and Garcia Mayo 2009). Research in the impact of CLIL on grammar, and especially syntax, on the other hand, has yielded mixed results and further research is needed in this area. Finally, it is interesting to point out that CLIL practice seems to have a positive impact mostly on average L2-level learners since, according to various studies (e.g., Kjellén Simes 2009, Dalton-Puffer 2011), these students are consistently found to be the most benefited from the CLIL approach.

With respect to the benefits of CLIL on content knowledge, these have not been as systematically investigated as language learning benefits (Dalton-Puffer 2011). Results vary across various European contexts, especially when it comes to CLIL practice in secondary school contexts (Van de Craen *et al.* 2007). In Finland, CLIL has been found to be beneficial for Maths and Science learning (Jäppinen 2005), and similarly, CLIL in Swiss primary education has benefited the learning of Maths (Serra 2007). Xanthou (2011) examined the effects of CLIL on the learning of Science by primary Cypriot learners, and found that Science learning was positively affected by the CLIL approach.

4. CLIL in Greece

As already stated, Greece is one of the very few countries in Europe where CLIL has not been implemented yet. CLIL was introduced as a pilot project into the 3rd Model Experimental Primary School of Thessaloniki, Greece in 2010. The particular school is supervised by the School of English, Aristotle University of Thessaloniki, and it is the only primary school in Greece which provides intensive English language instruction from grade 1. In particular, grades 1 and 2 are taught English for five hours a week and grades 3-6 are exposed to English language classes for eight hours weekly. On top of that, CLIL is systematically implemented as a method of teaching. The first year of its implementation (2010-2011), CLIL was introduced to Grade 6 for the teaching of *Geography* for two hours a week. According to the national primary school curriculum, Geography is taught for two hours in Grade 6 and this means that the particular subject was instructed exclusively in English. The following year (2011-2012), CLIL was extended to Grades 4 and 5 with the instruction of four more subjects in English. In particular, Environmental Studies and Arts in Grade 4, Geography and Religious Education in Grade 5 and Geography and History in Grade 6. All subjects were taught for 2 hours per week each. This school year (2012-2013), the programme has extended to Grade 3, where CLIL is used for the teaching of *History*. All subjects are taught exclusively in English by qualified English language specialists. We are aware that this is not usually the case in other European CLIL

programmes, where content teachers are those who teach those subjects in the target language.

As far as the teaching materials are concerned, CLIL instructors design their own materials on the basis of the syllabus they are required to cover in the respective subjects. Although English is exclusively used in those classes, the materials could not be the same as those used to teach the respective subjects in an English-speaking country, as CLIL requires a pedagogical adaptation, especially at those initial stages (cf. Lasagabaster and Sierra 2009). The material used includes texts, audiovisual material, powerpoint presentations, worksheets, projects, etc. Those projects usually require close cooperation between content and language teachers and some of them lead to or combine with extra-curricular activities, thus providing learners with the opportunity to transfer knowledge acquired at school to other contexts.

5. Our study

5.1. Participants

The study took place in the 3rd Experimental School of the School of English in Thessaloniki in the academic year 2011-2012. The CLIL subject was Geography, which means that learners were taught Geography through the medium of English. 51 sixth-grade students (11-12 years old) took part in the study. The control group (non-CLIL) consisted of 25 learners while the remaining 26 learners formed the experimental group (CLIL). The length of instruction was one school year (9 months). Both the experimental and the control group included learners of various L2 proficiency levels. These learners attended English language classes at school and they were streamed according to proficiency: Level 1 were the advanced learners, level 2 the intermediate learners and level 3 the low level ones.

5.2. Aim, hypotheses and research questions

The aim of the present study is to investigate the effect of CLIL instruction on learners' (a) language competence in English, and (b) content (subject) knowledge. According to recent research, the hypotheses are as follows:

- (1) CLIL students' content knowledge will not be negatively affected due to the use of L2 as a medium of instruction;
- (2) CLIL learners' performance in content tests is related to their L2 proficiency level;
- (3) Students instructed through CLIL will have more gains in L2 than the non-CLIL group.

The study also aims at answering the following research questions:

- Will the two groups (CLIL / non-CLIL) achieve similar scores in Geography tests taken during the school year?
- Will CLIL learners achieve higher scores in English language tests than non-CLIL learners at the end of the school year?

5.3. Research materials

The research tools of the study were 3 Geography tests (henceforth, content test 1, content test 2, content test 3), which aimed to examine learners' content knowledge.

In particular, content test 1 tested learners on the solar system, the second one tested them on directions and orientation and the third one on the atmosphere. Both CLIL and non-CLIL groups were tested on the same content every time, but in different languages: the CLIL group was tested in English, while the non-CLIL group in Greek.

A language test was also designed by the English language teachers of the school aiming to test CLIL and non CLIL learners' reading and listening skills in English. The test was distributed twice, the first time at the beginning of the school year and the second time in May after CLIL instruction had been completed. Only receptive skills were tested as these usually develop first and any language development in productive skills occurs after longer exposure.

6. Results

6.1. Content tests

Regarding our research question whether the two groups of learners (CLIL / non-CLIL) will achieve similar scores in Geography, as can be seen in the table below, both groups performed very similarly in all content tests. These results come in line with previous research which indicates comparable results between CLIL and non-CLIL groups in subject knowledge. In fact, previous studies have shown that there are gains, both cognitive and with respect to academic concepts when learners are instructed in CLIL contexts (Lamsfuss-Schenk 2002). Additionally, Vollmer *et al.* (2006 cited in Dalton-Puffer 2011: 188) found that CLIL instruction results in 'deeper semantic processing and better understanding of curricular concepts' and have thus claimed that 'rather than being a hindrance, L2 processing actually has a strong potential for the learning of subject-specific concepts' (ibid.).

Our first hypothesis was that CLIL students' content knowledge will not be negatively affected by the use of English as a medium of instruction. When comparing scores in the three content tests between the CLIL and non-CLIL groups (see Table 2), it becomes obvious that CLIL learners scored higher in two out of the three tests; in content test 2 this difference reached statistical significance ($p < 0.001$). As far as the content gains are concerned, our hypothesis is confirmed, as it becomes obvious that content knowledge is clearly not negatively affected by the use of English as a medium of instruction; in fact, CLIL learners did better in two out of the three geography tests.

	Content test 1		Content test 2		Content test 3	
	mean score	stand. deviation	mean score	stand. deviation	mean score	stand. deviation
CLIL	7.9	1.6	9.1	1.1	6.0	2.2
Non-CLIL	7.3	2.2	6.9	2.0	7.3	2.0

Table 2. CLIL and non-CLIL groups' mean scores and standard deviations in content tests

Our second hypothesis was that there is a relationship between learners' L2 proficiency level and their performance in content tests. Indeed, some statistically

significant differences were found. Learners of level 1 outperformed those of the other two levels, while learners of level 2 outperformed those of level 3. So, it becomes obvious that learners of higher L2 proficiency achieved higher scores in the content tests as well, and, conversely, learners of lower L2 proficiency had a lower performance in the content tests; therefore, our hypothesis is confirmed. However, our findings contradict studies by Dalton-Puffer (2011) and Kjellén Simes (2009), which indicated that average L2-level learners were those who benefited the most from the CLIL approach; in our case, it was the advanced learners who excelled in all tests. In fact, statistically significant results emerged from both content test 2 and content test 3, where advanced learners (level 1) outperformed low level ones (level 3) ($p < 0.001$) (Table 3).

	Content test 2		Content test 3	
	mean score	stand. deviation	mean score	stand. deviation
Level 1	9.5	0.37	8.16	2.2
Level 3	6.7	1.14	4.05	1.33

Table 3. CLIL groups' mean scores and standard deviations in content tests and levels

Additionally, in content test 3, learners of level 2 outperformed those of level 3 and this difference reached statistical significance (Level 2: mean score-6.5 / stand. deviation-1.6; level 3: mean score-4.05 / stand. deviation-1.33, $p < 0.002$). Such results clearly confirm findings of previous research into the benefits of CLIL on content knowledge, such as those in Finland (Jäppinen 2005), Switzerland (Serra 2007) and Cyprus (Xanthou 2011).

Finally, when correlating the scores between content and language tests in the CLIL group, statistically significant correlations emerge (Table 4). This means that learners who scored high in content tests also scored high in language tests, especially in language test 2.

Content tests	Listening 1	Reading 1	Language test 1 total	Listening 2	Reading 2	Language test 2 total
Content test 1	0.405*		0.447*	0.462*	0.472*	0.556**
Content test 2			0.488*			
Content test 3				0.405*	0.632**	0.618**

Table 4. Correlations between content and language scores in the CLIL group

6.2. Language tests

With respect to the effect of CLIL on learners' language performance, our hypothesis was that CLIL instruction will have a positive effect on the language development of CLIL learners when these are compared with the non-CLIL group. In order to investigate their language performance, the same English language test was administered twice – once before and once after CLIL instruction (language test 1 and language test 2, respectively) – to both CLIL and non-CLIL learners. The results of these tests indicate an improvement in reading and listening skills in both groups. We remind the reader that both groups are instructed English for eight hours a week and that the CLIL group is further instructed Geography in English two hours per week. The results in Table 5 indicate the scores of both groups in language tests 1 and 2.

	Language test 1	Language test 2
CLIL	Listening test: 18/5.93 Reading test: 13/3.8	Listening test: 23/5.4 Reading test: 14/5.5
Language total	31/7.3	38/9.2
Non CLIL	Listening test: 19.7/5.7 Reading test: 14/5.7	Listening test: 23/5.9 Reading test: 16/6.7
Language total	34/9.4	40/11

Table 5. Mean scores and standard deviations in language tests for CLIL and non-CLIL groups

Concerning the linguistic gains, both groups' language performance improved in language test 2 but no significant differences were found between scores in language test 1 and language test 2 for either group. The difference in scores between the two groups in language test 2 (38 vs 40) (Table 5) does not necessarily indicate a better language development in the non-CLIL group. In specific, it should be noted that the non-CLIL group started off with higher language performance in both listening and reading tests in language test 1 (language total: 31 for CLIL vs. 34 for non CLIL learners). At the same time, it is evident that the difference between language test 1 and language test 2 in the CLIL group is higher (31 vs 38) than the respective one in the non-CLIL group (34 vs 40); this finding indicates higher language gains for the CLIL group and actually confirms our final hypothesis. The differences in scores between the two groups in language tests 1 and 2 are not statistically significant. Our findings agree with those of previous studies which have shown that CLIL practice has a positive impact on foreign language learning in primary educational contexts (cf. Cenoz and Perales 2001, Serra 2007, among others).

7. Conclusion

This paper presented the first official attempt in Greece to implement CLIL instruction in the context of primary education. As English is taught as a foreign language in Greece for only a limited number of hours in the school curriculum, CLIL instruction may be seen as an attempt to increase Greek learners' exposure to English language input, without, however, extending the school timetable. Triggered by findings of similar previous studies within the European educational context, we aimed to investigate whether CLIL instruction has a positive impact on Greek learners' L2 development and whether the use of English as a medium of instruction affects in any way their subject knowledge. The results of our preliminary study have indicated both language and content gains for the CLIL learners involved and thus seem to support the continuation and extension of the project to other Greek primary schools.

We believe that two points need to be further investigated in future research. The first one is related to the positive impact CLIL instruction has on learners' content knowledge. This perhaps should be examined in relation to the strategies CLIL learners use in order to comprehend the concepts presented in the foreign language. The second point concerns CLIL learners' L2 development. As the effect of CLIL instruction on learners' productive skills takes more time to be evidenced, it will be necessary to study those learners' language gains after at least four years of CLIL implementation. As CLIL instruction helps learners develop literacy in two languages, it might be interesting to see whether this biliteracy provides them with language and cognitive advantages comparable to those of early bilinguals (Bialystok 2011).

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