THE IMPACT OF CLIL

AFFECTIVE FACTORS, CONTENT-RELATED VOCABULARY & GENDER DIFFERENCES

Dissertation By

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Ikasle eta familiari,

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ABSTRACT

This study investigates the potential impact of an educational intervention based on Content and Language Integrated Learning (CLIL) on Secondary School students of low-intermediate proficiency levels (A2+/B1).

The goal is threefold: to assess the effectiveness of the CLIL intervention on affective factors (motivation and self-esteem), on the learning of content-related vocabulary of the subject matter, and to test the purported blurring effect of the mentioned approach on the controversial issue of gender differences in foreign language learning (FLL).

Concerning the affective factors, 25 students (CLIL students, henceforth) in their 4th year of Compulsory Secondary Education and who had been taking part in a CLIL project for four school years were administered a questionnaire on motivation and self-esteem. Another 21 students (non-CLIL students) were also given the same questionnaire.

As for the learning of vocabulary, the CLIL students were tested in order to find out the effect of a CLIL intervention on their learning of the technical vocabulary related to the content. Participants' learning of vocabulary was tested on a pre-test, immediate post-test and delayed post-test design.

Although no significant differences were found between the CLIL and the non-CLIL group in motivation and self-esteem, when gender was considered differences emerged between the two groups. Results also revealed that CLIL students had a higher self-esteem and felt less anxiety to practice their oral language skills in the CLIL learning context compared to the conventional EFL setting. Finally, results of the vocabulary tests indicated that the CLIL intervention had a positive effect on students' learning of the technical content-related vocabulary and that there were not significant gender-related differences, which supports the idea that CLIL makes up a learning context where purported gender-related differences are diminished.

1. INTRODUCTION

In our globalised world, English is increasingly regarded as a "basic educational skill to be developed from primary level alongside literacy and numeracy" (Dörnyei and Ushioda, 2011: 72), a "key literacy feature worldwide" (Dalton-Puffer, 2011: 183) or a "prerequisite for individual success" (Coyle, Hood and Marsh, 2010: 9). Therefore, nobody would dare questioning the importance of reaching a good level of competence in English and the need of doing it within the educational system. As a matter of fact, European, national and local policies have been promoting foreign language learning (FLL) and multilingualism in order to facilitate workforce mobility within Europe. However, FLL and English as a foreign language (EFL) have traditionally shown unsatisfactory results in many formal educational settings worldwide. Spain is not an exception and, probably as a consequence, extra-curricular English private lessons and courses, both abroad and at home, have dramatically increased in the last decade, resulting in an increment of both, students' commitment and families' expenses. The aforementioned EFL competence seems to be even more discouraging when gender is concerned, as this variable seems to play a central role in foreign language acquisition (e.g. Oxford, 1994). Amongst many others, some studies show that males do not do as well in foreign language learning (Burstall, 1975) and that they are more likely to drop foreign language (FL) (Clark and Trafford, 1995; Carr and Pauwels, 2006). It has been found that females have more positive attitudes to FLL and higher motivation than males (Spolsky, 1989). Developmental and cultural features seem to be at the origin of it.

On the other hand, different studies seem to show that motivation diminishes in formal settings over sustained periods (Chambers, 1999; Williams, Burden, and Lanvers, 2002). Psychological and educational issues have been put forward to explain the phenomenon: pupils' rejection of the school system at a certain developmental stage (the transition from a family identity to a more individual and peer group identity) or the so called "norm of mediocrity" in response to the prevailing peer

group culture (Graham, 2001; McCaslin and Good, 1996) and teaching methodologies (the shift from more oral-based and student-centred approaches in primary school to a more written and teacher-centred in secondary).

With this context in mind, we urgently need to find more efficient ways to teach and learn FLs and this is one of the major reasons why attention is paid to Content and Language Integrated Learning (CLIL). CLIL is considered to be somehow an alternative path to conventional EFL (it is believed to be a way to transcend the perceived weaknesses of traditional foreign language teaching). It has become "trendy" and, as a matter of fact, CLIL programmes have spread in the last decade all over Europe, including Navarre, one of the autonomous communities in Spain.

In the past, learning content through a foreign language was limited to very specific social groups. With CLIL initiatives a wider range of learners can now have access to this type of language education, not only those from privileged or elite backgrounds.

Education, research and innovation (often cited as the pillars of the Knowledge Age society) need to work together. Therefore, not only do educational authorities need to evaluate these new programmes, but they also have to carry out research studies which focus on particular projects in order to find out what the real benefits and limitations of CLIL might be. This is particularly necessary in bilingual contexts with a minority language (Basque) such as Navarre in the north of Spain, where programmes which promote English are often perceived as competitors and consequently highly controversial.

According to Dalton-Puffer (2011: 185), not only are CLIL programmes being implemented in Spain but much research is also being carried out. Most of these studies have been conducted on language, while very few have focused on content. Although, overall vocabulary learning has been paid

attention in CLIL, little research has been conducted on more technical content-related vocabulary. Taking into account that the learning of such a technical vocabulary is part of the aims of the curriculum of a specific subject, focusing on the technical vocabulary could be a way of tackling part of the content.

On the other hand, affective factors such as motivation and self-esteem are highly related to FLL and research needs to focus on them. Interest in affective factors is not new. It was already present amongst others in Vygostsky (1926) and Montessori (1949) and gained importance with the growth of humanistic psychology. The Natural Approach developed by Krashen and Terrell (1983) takes affect into consideration and classroom activities are designed to reduce anxiety or stress. Motivation and self-esteem are essential requirements and could be compared to foundations in a building: the more solid they are, the more secure the building. The question is how to maintain and increase the student's motivation and self-esteem in a context (the conventional foreign language classroom) which is inherently face-threatening for the students: they do not just have to show their limited resources in the FL, but they also have to face a grading system which usually generates more anxiety.

Motivation, which has been regarded as a linear and stable learner trait for decades, has undergone a shift towards a more dynamic perspective which takes into account the learning environment (classroom, teacher, etc...). Dörnyei's (2005 and 2009) proposal of the "L2 Motivational Self System", which tries to investigate learner identities and the learning environment, provides an interesting framework to deal with such a complex and dynamic issue and has considerable practical pedagogical implications. To our knowledge, CLIL literature in Spain encompasses scarce studies on motivation and specifically, from Dörnyei's new theoretical framework.

After this introductory section, in section 2, CLIL will be the focus of our attention. We will first define CLIL, then explain the spread of the approach and finally its implementation in Navarre. Section 3 is devoted to the literature review which consists of affective factors in EFL (motivation and self-esteem), CLIL and vocabulary learning, gender and FLL and the explanation of our theoretical background, the "L2 Motivational Self System". In section 4 the research hypotheses will be presented. Section 5 is devoted to the study and issues such as the context and the methodology, the participants, the materials and the procedure. In the following section, section 6, the results will be described. The seventh and eighth section will be devoted to the discussion of the results and to the drawing of conclusions, whereas the ninth and last section will deal with the pedagogical implications.

2. CLIL

In the following paragraphs, we will define CLIL. To do so, we will first provide two definitions which have been widely used in the literature and mention CLIL's pedagogical inspiration. Then, some differences between CLIL and immersion programmes will be underlined and, finally, the purported benefits of CLIL will be echoed.

According to Marsh and Langé (2000: iii), CLIL is somehow an umbrella term: "Content and language integrated learning (CLIL) is a generic term and refers to any educational situation in which an additional language and therefore not the most widely used language of the environment is used for the teaching and learning of subjects other than the language itself". In other words, CLIL includes a wide range of teaching practices but the idea is to focus on content and language at the same time, being both equally important. Wolff (2007: 15) provides a similar definition: "Content and Language Integrated Learning (CLIL) as an educational approach was based on the assumption

that foreign languages are best learnt by focussing in the classroom not so much on language but on the content which is transmitted through language."

Now, from a pedagogic point of view, and following Coyle, Hood and Marsh (2010) CLIL is considered to be a post-method pedagogy model, which has been influenced by different theories which have traditionally had an enormous impact on education:

... landmark work by Bruner (b. 1915), Piaget (1896–1980), and Vygotsky (1896–1934) led to the development of socio-cultural, constructivist perspectives on learning. These perspectives have had an immense impact on educational theory and practice. Related areas such as multiple intelligences (Gardner, 1983), integration (Ackerman, 1996), learner autonomy (Holec, 1981; Gredler, 1997; Wertsch, 1997; Kulka, 2000), language awareness (Hawkins, 1984) and language-learning strategies (Oxford, 1990) all played a key role in examining ways to raise levels of curricular relevance, motivation and involvement of learners in their education. Moreover, the balance between the individual and the social learning environment has led to alternative means by which to teach and learn both content subjects and languages. Since CLIL straddles these two different but complementary aspects of learning, parallels between general learning theories and second language acquisition (SLA) theories have to be harmonized in practice if both content learning and language learning are to be successfully achieved (Coyle, Hood and Marsh 2010: 3).

CLIL was inspired by Canadian immersion programmes and American bilingual education programmes and, as a result, it shares many features with them. However, they are not exactly the same and some differences should be highlighted. The first one refers to its label, CLIL is considered to have a European flavour. The term CLIL was adopted in 1994 within the European context and

from the 1990's onwards it has been promoted within the European Union as a major educational initiative (Eurydice 2006). Other differences between CLIL and immersion programmes can be established concerning the following issues. Reading and writing skills, for instance, are taught in the mother tongue (L1) in CLIL while the second language (L2) is used in immersion. The language of instruction in CLIL is a FL, whereas, it is an L2 for immersion. Teachers in CLIL tend not to be native speakers of the target language, whereas, more often than not, they are in immersion programmes. L2 native-like competence is the aim in immersion, whereas communicative competence is the goal in CLIL. As for materials, they are the same as the ones aimed at natives in immersion programmes, whereas they tend to be adapted to non-native learners in CLIL. The presence of immigrant students is still quite uncommon in CLIL programmes; this is not the case in immersion programmes. Another difference is related to the starting age in CLIL which is more similar to late immersion type of programmes. Finally, the amount of research conducted on CLIL and immersion programmes differs and more empirical evidence on the effectiveness is still needed in CLIL (Lasagabaster and Sierra, 2010).

CLIL has been reported to have many benefits. For example, it is believed to help to prepare students for internationalization as well as to enhance students' intercultural communicative competence. It is also thought that it fosters implicit and incidental learning by focusing on meaning and communication. Triggering high levels of communication among teachers and learners, and among learners themselves as well as improving overall language competence in the target language, particularly oral skills, are also some of the commonly mentioned benefits of CLIL. Increasing learners' affective dimension has also been reported as a beneficial effect of this approach. Students seem to feel more motivated to learn foreign languages, as they undergo less stress and anxiety. It is thought that implicit learning can only be provided in L2 naturalistic contexts, immersion (Dekeyser, 2000) or CLIL programmes (Coyle, 2008), due to a much higher exposure to the L2. Last but not

least, it is also assumed to help to improve specific language terminology. And all this is partly due to the fact that the FL in CLIL is used to transmit information in real communicative situations and therefore language learning takes place in a more meaningful and efficient way (Lasagabaster, 2008). Moreover, all these benefits seem to occur without any negative effect on the learners' L1 and on the learning of content. For example, empirical studies conducted in different parts of Spain seem to show that CLIL helps students to develop FLL (Lasagabaster, 2008) and that, in the Basque Autonomous Community (BAC), a higher English proficiency is achieved without any negative effect on the development of the two other languages: Basque (the minority language) and Spanish (Lasagabaster and Ruiz de Zarobe, 2010). This is a particularly relevant issue in areas where a minority language is spoken and dominant languages are often perceived as competitors. As for the learning of content of the subject matter, although students in CLIL programmes seem to perform as well as their non-CLIL counterparts in general terms on tests aimed at measuring achievement levels, little research on content learning has been conducted so far.

However, not all the research findings show so positive outcomes. As Seikkula-Leino (2007) points out in her study in Finland, more attention should be paid on learners' achievement levels in the learning of the content of the subject matter. She examined content learning in terms of achievement levels in 217 students from grades 5 and 6. By analysing the relationship between school success and levels of intelligence, she divided the students in three groups: underachievers, achievers and overachievers. She found out that there were fewer overachievers among the pupils in CLIL than among the pupils in the mother tongue instruction group, suggesting that learning content through a FL has a cost. The second aim of her study was to assess students' affective factors, specifically, motivation and self-esteem. The results showed that although CLIL students had a strong motivation to learn, they had a lower self-esteem concerning their foreign language competence than their non-CLIL counterparts. Similarly, Lasagabaster and Ruiz de Zarobe (2010) highlight two important

issues related to outcomes in CLIL. On the one hand, they mention that the fact that many of the students are usually selected through an entrance examination before joining CLIL programmes may have somehow biased these positive results. On the other hand, they also report that many empirical studies have focused on the general proficiency in foreign language, but results on the learning of content of the subject are still very rare. Finally, we must mention Bruton's (2011) critical minianalysis of the research carried out in the Spanish context, where he points out different anomalies not only in the research, but also in the analysis of the results that might have led to an excessively enthusiastic image of CLIL results.

2.1. The blossoming of CLIL

After having defined CLIL, we must mention that CLIL, immersion programmes and bilingual education enjoy an increasing popularity in the educational scene all over the world. The goals of these programmes are varied and so are their outcomes. In the immersion programmes in Canada, French has been the target language of English-speaking communities. For example, in Quebec, French has been the focus of immersion programmes since the 1970's. To guarantee a good command of English to their multilingual population has been the main concern of transition programmes in the United States from the 1980's onwards. In Asia and Europe, the programmes have been aimed at improving the learning of FLs.

CLIL approaches have been expanding fast since the 1990's. In the last 15 years, CLIL has flourished all over Europe as a result of different European policies eager to promote FLL and multilingualism. The Eurydice survey (2006) reveals that the initiatives in the field of CLIL have increased in recent years. School systems all over Europe have adopted some kind of CLIL, following the European recommendation (Van de Craen & Mondt, 2007). The idea behind is that multilingualism should be promoted amongst European citizens in order to foster internationalization

and European integration. Our students should ideally master their mother tongue(s) plus two more foreign languages (MT(s) + 2) and this should be achieved within the limited time devoted to FLL in the school curriculum. Therefore, introducing the teaching of other subjects of the curriculum through a FL seems to be a convenient and pragmatic solution to accomplish it; two birds, one stone.

Spain has not been an exception in the growth of CLIL and a wide range of programmes have spread all over the country. FLL has traditionally been an Achilles' heel in Spanish education. In 2005, the Eurobarometer survey conducted on the perception European citizens had on their command of foreign languages revealed that only 36% of the Spanish respondents reported being able to take part in a conversation in a language different from their mother tongue (L1), and only 20% of them could do it in English. These data are really meaningful if we compare them with countries such as Denmark, Sweden or the Netherlands where more than 80% of the population can have a conversation in English. Different factors, ranging from large class sizes to the very limited exposure to English in the social context, have been put forward in order to explain these poor results¹. As a consequence, the number of children attending private extracurricular English classes has dramatically increased in Spain in the last decade. The attendance to these courses usually takes place after the school day, once or twice a week or/and on some kind of summer course both abroad, in an English-speaking country, or in Spain. The cost of all these courses is usually taken on by the families and one could wonder the extent to which economically disadvantaged families can afford to provide their children with such an option. We cannot forget that learning FLs in general and, learning English in particular, is becoming increasingly important. English is no longer the additional bonus it used to be and has become an essential requirement in one's curriculum, because, whether we like it or not, it is considered to be necessary for global communication. This is the reason why,

¹ The fact that the exposure to English in the social context is really limited seems to be a crucial factor. We must bear in mind that in Spain, unlike other European countries, there is a long tradition for dubbing programmes which are then broadcast in Spanish or some of the other minority languages (Basque, Galician and Catalan). This situation might change soon thanks to Digital Terrestrial Television, though.

even though other FLs such as French and German are also taught, English is the FL mainly taught at the moment both in conventional EFL and CLIL approaches (Lasagabaster and Ruiz de Zarobe, 2010).

Although results overall in FLL do not seem to be very encouraging, the scene becomes even more disheartening when the variable gender comes on stage. We should bear in mind that the educational community is increasing its concern about differences in school results between males and females. In Navarre, academic results for the school year 2009-2010² show that a higher percentage of males did not obtain their Certificate of Secondary Education (13.2% of males vs. 10.05% of females). Results also show that a higher percentage of women passed their 2nd year of post-compulsory education (females: 86.33% vs. males: 80.59), a higher percentage of females also enrolled for their national entrance exam for university (females: 76.03 vs. males: 64.53), and eventually a higher percentage of females passed the entrance exam (females: 71.24 vs. males: 59.36). Finally, results of the "Diagnostic Assessment" (*Prueba Dignóstica*) in the school year 2010-2011³ show that males obtain slightly better results than females in Mathematics (males: 15.97 vs. females: 15.61) and Sciences (males: 18.94 vs. females: 18.83) but lower ones in linguistic competence in Basque (males: 18.58 vs. females: 20.86), Spanish (males: 20.73 vs. females: 21.71) and English (males: 17.23 vs. females: 19.47).

With this context in mind, all efforts to improve FLL within the educational system should be welcomed as a way to guarantee equal opportunities for all kind of students, whichever their social, economical background and gender might be, in order to reach the "MT(s) + 2" objective. CLIL

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http://www.educacion.navarra.es/portal/Informazio+interesgarria/Ebaluazioa/Emaitza+Akademikoak?languageId=6

² Results are available at:

³ Results available at:

http://www.educacion.navarra.es/portal/Informacion+de+Interes/Evaluacion/Evaluaciones+de+Navarra/Educacion+Secundaria

seems to be one of the possible courses of action with a view to accomplishing such a task. As a matter of fact, Spanish central educational authorities and a considerable number of autonomous ones are giving support, although to varying degrees, to the implementation of CLIL projects and Spain is rapidly becoming one of the European leaders in CLIL practice and research (Coyle, 2010).

2.2. CLIL in Navarre

Navarre, as many other autonomous communities, has been promoting "plurilingual" programmes for the last few years. Before focusing on these programmes, we will briefly review the linguistic and educational context of the community.

The controversial "Vascuence" (Basque Language) Law (1986) establishes a linguistic zoning that divides the community of Navarre into three parts (see Oroz and Sotés, 2008). In the "Basque-speaking area" Basque, which is a minority language (although widely spoken in this area), is official along with Spanish. In the "mixed area", where the capital city Pamplona is located, Basque is not official. Nevertheless, citizens have the right to address the public administration in Basque, although the law does not require the reply to be in Basque (Article 17 of Foral law18/1986). In the third area, called the "non-Basque-speaking area", Basque is not official either. The official status of Basque has educational implications, such as the accessibility to different linguistic models in state schools. By virtue of Foral Law 159/1986 for pre-university studies, students can choose different linguistic models in which to study in primary and secondary education (from age 3 to 18). The models are A, D, B or G. Due to the linguistic zoning mentioned above, the choice of models depends exclusively on the linguistic area the student lives in. In the "Basque-speaking area", learning both languages as a subject is obligatory for all students who can chose between the following three models: D, A or B models. In A model Spanish is the main language of instruction and Basque is taught as a subject an average of 4 hours per week. In B model, Basque and Spanish

are used as languages for instruction; the amount of hours devoted to each language usually depending on the school. In the D model, Basque is the main language of instruction and Spanish is taught as a subject 4 hours a week. In this sense, the choice of linguistic models in the "Basque-speaking area" is very similar to the one in the BAC. In the "mixed zone", D and A models can also be found along with G model, a model entirely in Spanish. Finally, in the "non-Basque-speaking" area, A and G models are offered to students in state schools, but D model is only offered in a few Basque-medium private schools (*Ikastolak*), which are state-funded since 2006, when the Government of Navarre and the network of *Ikastolak* in Navarre (*Nafarroako Ikastolen Elkartea*) signed an agreement in order to legalise four schools which had been offering D model "illegally" for 11 years in the area. Although D model was legalised by the aforementioned agreement, no D model can be found in this area in state schools yet.

On the other hand, the Department of Education of Navarre has been implementing different programmes known as "Plurilingual programmes". The teaching of foreign languages, mainly English, in Basque models is regarded as a way towards multilingual education, while in Spanish models English has become a way to start bilingual education (Oroz and Sotés, 2008). The Department of Education states on its official webpage that these programmes are aimed at developing the curriculum in force coordinating its implementation in two or more languages. Basically, these programmes develop curricular content of non linguistic subjects in a FL, integrating language instruction and content (CLIL), as well as carrying out an integrated treatment or coordination of the different languages in the curriculum.

⁴ <u>RESOLUCIÓN 31/2010</u>, de 2 de febrero, de la Directora General de Ordenación, Calidad e Innovación, por la que se establecen las bases para la impartición de los programas plurilingües de inglés en Educación Secundaria y se convoca el programa plurilingüe de Secciones Bilingües de Inglés en nuevos centros en el curso 2010-2011.

Plurilingual programmes usually start in the last two years of kindergarten and then continue in Compulsory Secondary Education. Basque, in the case of students in the A model, is also didactically integrated and coordinated with the other languages, in accordance with its scheduled hours. In general terms, 35% of the curriculum (10 sessions) is taught in English in A/G models. In D model⁵, 18% (5 sessions) is devoted to English in kindergarten and between 21% and 28% in primary school.

The "Bilingual Sections of Secondary Education" are also part of these plurilingual programmes. Their implementation started in the school year 2007-2008. They are aimed at developing, total or partially, the official curriculum of one or more subjects, using a FL as a vehicular language. The goal is to integrate the learning of the language and the content. Students start in their 1st year of Compulsory Secondary School and finish at the end of it, in their 4th year. It is worth mentioning that they were named "Bilingual Sections" for all the linguistic models, showing a clear monolingual (Spanish) linguistic perspective.

Before these plurilingual programmes, the so-called "British model" had already been introduced in Navarre, but only in a few schools. This model, which was the result of an agreement between the Spanish Ministry of Education and the British Council in 1996, was aimed at bilingualism (Spanish-English) and taught in a partially integrated curriculum⁶. Plurilingual programmes and the "British model" have been highly controversial from the very beginning of their implementation and still are. The reason is that they are perceived by part of the population (often suspicious with the real intentions behind the linguistic policies of the Government of Navarre) as an attempt to diminish the spread of the linguistic model in Basque (D model) in the mixed zone.

⁵ No specific information about B model is given in the mentioned official webpage as this model is really limited.

⁶ For more information about the project see: http://www.britishcouncil.org/spain-education-bilingual-project.htm

While a considerable amount of research on CLIL has been conducted in other autonomous communities in Spain (for an overview see Ruiz de Zarobe and Lasagabaster, 2010), to our knowledge, no study on this issue has been carried out in Navarre yet. However, the Department of Education of Navarre has been evaluating EFL in Secondary School since the school year 2008-2009 with the so called 'Diagnostic Assessment' In the school year 2010-2011, Navarre has taken part in the 'European Study on the Linguistic Competence' which will surely reveal important findings on the topic once the results are published. For the first time, official data concerning the amount of extracurricular English lessons the students attend will be available, but not before December 2012.

So far, we have overviewed different issues surrounding the implementation of CLIL in the world, Europe, Spain and Navarre, paying special attention to the linguistic and educational contexts. We have also mentioned the need to improve FLL within the school system in order to guarantee that all students, whatever their social, economic background and their gender might be, will be given the same opportunities to attain a good level of competence in at least one foreign language, if not two, following European recommendations.

3. LITERATURE REVIEW

3.1. Affective factors: motivation and self-esteem

It seems that the benefits of CLIL are not constrained to the development of FL proficiency. Positive results have also been observed when it comes to attitudes and motivation (Lasagabaster, 2011; Lasagabaster & Sierra, 2009).

Motivation is not a simple issue and consequently it has been paid much attention in second language acquisition (SLA) literature. As mentioned above, although for a long time research on this issue

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⁷ More details can be found in:

http://www.educacion.navarra.es/portal/Informacion+de+Interes/Evaluacion/Evaluaciones+de+Navarra/Educacion+Secundaria

considered motivation as a relatively stable and linear matter, a more dynamic perspective has come to the fore during the last two decades. Among many others, we would like to underscore the following tendencies some results seem to point to. First of all, research studies in different contexts seem to show that there is a clear correlation between motivation and language (Masgoret and Gardner, 2003). On the other hand, and as we mentioned earlier, research also seems to point out that there is a decline in students' motivation to FLL through their schooling years. This might be due not only to educational reasons, such as methodological changes from primary to secondary school, but also to students' psychological changes, such as the rejection of the school system. Once again, could a CLIL approach tone down this process of "demotivation"?

Although much research has focused on motivation and SLA, very little research has been carried out on comparing FLL and CLIL contexts. As we mentioned previously, Seikkula-Leino (2007) found in the part of her study which dealt with the motivation and self-esteem of students in CLIL and FLL contexts, that, although CLIL students had a strong motivation to learn, they showed a lower self-esteem in their foreign language competence than their non-CLIL counterparts. Fippula (1996) similarly found that pupils in CLIL were more motivated than the pupils being taught in Finnish (L1). While competence was the key factor for success amongst the students in CLIL, the students learning in their L1 often associated the success to the easiness of the task. This fact has been interpreted as a sign of low motivation. Similar results have also been found by Heinilä and Paakinen (1997), Lasagabaster (2008, 2011) and Navés and Victori (2010), but empirical data are needed, especially research focused on the latest motivational proposal (Dörnyei, 2009), namely the "L2 Motivational Self System".

3.1.1 Theoretical background: The L2 Motivational Self System

Dörnyei's "L2 Motivational Self System" will be the theoretical basis of our study. This proposal has become highly influential in the last years in motivation research in educational contexts. Before focusing on the "L2 Motivational Self System", we will give a brief historical overview of the main trends on motivation research.

According to Dörnyei and Ushioda (2009), L2 motivation research has gone through three phases: "the social psychological period" (1959-1990), "the cognitive-situated period" (during the 1990's) and "the socio-dynamic period" (turn of the century).

During the first period, the social psychologist Robert Gardner with his students and associates in Canada led motivation research. Bearing in mind the Canadian context where the society was ethnolinguistically divided, their main interest was the fact that the motivation to learn the other community's language could be the key to the reconciliation of the Anglophone and Francophone communities. Their main point was learner's attitudes or perceptions of the L2, the L2 speakers, along with the possible sociocultural and pragmatic benefits and values related to the L2. Consequently, success or failure to learn a language was highly related to the learner's attitudes towards the target language and its linguistic and cultural community. In other words, motivation to learn a language depends on having a positive attitude towards the members of the other language community and on the desire to communicate with them, and sometimes even to become like them. This was known as "integrative orientation" or "integrativeness".

During the 1990's, a shift in motivation studies occurred. Special attention was paid to cognitive theories in educational psychology and studies were mainly carried out outside Canada. Although the importance of the Canadian social psychological approach was not questioned, researchers found the

need to broaden the scope of Gardner's theory. Motivation research became increasingly interested on educational matters, focusing on motives related to classroom learning. A situated approach was adopted, focusing on the main components of the learning situation (such as the curriculum, the teacher and the learners' group).

The shift to the third period on motivation research started at the turn of the century. The main features could be an increasing interest in motivational change and in the relationship between identity/self and motivation. The "person-in-context relational view of motivation" (Ushioda, 2009), "Motivation from a complex dynamic system perspective" (Dörnyei, 2009) and the "L2 Motivational Self System" (Dörnyei, 2005 and 2009) are examples of this new view on motivation. The latter has been chosen as the theoretical framework of our study.

In 2005, Dörnyei proposed a reorganization of L2 motivation as part of the individual's self system (Dörnyei, 2005). As the author states, the new construct, called the "L2 Motivational Self System", is an attempt to synthesize different influential approaches in the field (Gardner, 1985; Ushioda, 2001; Noels, 2001). Simultaneously, the goal is to go beyond the scope of L2 motivation theory in order to be able to apply it in different language learning environments in our increasingly globalised world.

His theory drew on psychological research on "possible selves" and "future self-guides". Markus and Nurius (1986) had introduced the concept of "possible selves" which represents the individuals' ideas of what they might become, what they would like to become, and what they are afraid of becoming.

The main features of the new theory are, on the one hand, the fact that it reflects a dynamic, forward-pointing conception that may explain how someone is moved from the present to the future and, on

the other hand, its potentiality to integrate cognitive, emotional, and contextual factors as the author (Markus, 2006) suggests.

Due to the significance of the learner's ideal self in academic performance, much research has been conducted in this area by Tory Higgins and his associates (e.g. Higgins 1987, 1998; Higgins, Klein, and Strauman 1985; Higgins *et al.* 1994).

The two principles in Higgin's self-theory are the "ideal self" and the "ought to self". While the former represents the features that someone would ideally like to possess (i.e. representation of wishes, aspirations or hopes), the latter represents the attributes that one believes one ought to possess (i.e. representation of someone's sense of duties, moral responsibilities, or obligations)

The key factor for motivational power of possible selves lies in the imaginary. Imagination has been related to motivation since the ancient Greeks. For example, Aristotle claimed that "There's no desiring without imagination" (in Modell, 2003:108). In the field of sport psychology, the effect of mental imagery on motivation has also been well documented. Gregg and Hall (2006) summarize that imagery is an effective performance enhancement technique. Higgin's (1987; Higgins, Klein, and Strauman 1985) theory postulates that motivation involves the desire to reduce the discrepancy between one's actual self and the projected behavioural standards of the ideal/ought selves. Future self-guides would be the points of comparisons to be reconciled through behaviour.

Dörnyei's process-oriented approach is an attempt to give consideration to the continuous changes of motivation over time. Apart from the ideal self and the ought-to self, he also felt the need to add a third major constituent, which would be associated with the direct impact of the students' learning environment. As discussed above, one of the main achievements of the "educational shift" of

motivation research in the 1990s was the recognition of the importance of the different components of the classroom (the teacher, the curriculum and the learner group). As Dörnyei sates:

For some language learners the initial motivation to learn a language does not come from internally or externally generated self-images but rather from successful engagement with the actual language learning process (e.g. because they discover they are good at it) (Dörnyei 2009 : 217).

Thus, three are the components of Dörnyei's "L2 Motivational Self System". The "Ideal L2 Self" which refers to the representation of all the attributes related to the L2 that a person would like to possess (e.g. desires, aspirations, hopes...). If the person we would like to become speaks an L2, the "Ideal L2 Self" is a powerful motivator to learn the L2, due to the desire to reduce the gap between our actual and ideal self. Traditional internal instrumental motivation and "integrativeness" would belong to this component. In fact, there was a growing dissatisfaction with the concept of integrative motivation which was originally conceptualized in relation to contact and identification with members of a specific L2 group, and in a very particular sociocultural context. Research found integrative motivation not to be fundamental for the motivational process in general, especially in settings where the L2 is not present in everyday life. Then, the growing dominance of World English as well as the results of a large-scale motivation survey in Hungary (for an overview, see Dörnyei et al., 2006) led Dörnyei to equate "integrativeness" with the "Ideal L2 Self". If the person that we would like to become is proficient in the L2, he/she can be described – using Gardner's terminology – as having an "integrative" disposition.

The second component, the "Ought-to L2 Self", consists of the attributes that one believes one ought to possess to avoid possible negative outcomes, and which therefore may bear little resemblance to

the person's own desires or wishes. Therefore, this dimension involves the more extrinsic or less internalised types of instrumental motives.

The third and last component, the "L2 Learning Experience", concerns more situated, executive motives related to the immediate learning environment and experience (e.g. the impact of the teacher, the curriculum, the peer group or the experience of success).

To sum up, Dörnyei's new theory suggests that the motivation to learn a second/foreign language draws from three primary sources: the learner's vision of oneself as a proficient and effective L2 speaker, the social pressure coming from his/her environment and positive learning experiences. Several quantitative research studies have been carried out over the past years to test and validate in different learning environments the "L2 Motivational Self System" (e.g. Csizér and Kormos, 2009; MacIntyre *et al.*, 2009; Ryan, 2009; Taguchi *et al.*, 2009), but CLIL has not been considered so far as part of the motivational equation.

3.2. CLIL and vocabulary learning

One of the widely discussed topics in language acquisition is the learning of vocabulary and, consequently, CLIL approaches have paid special attention to it. It is argued that in a CLIL learning context, there are more opportunities to learn vocabulary because it is used in contexts for real communication and, as a result, learning takes place in a more meaningful way. For example, Coady (1997) reached the conclusion that if the language is authentic, rich in content, enjoyable, and, above all, comprehensible, then learning will be more successful. On the other hand, Mezynski (1983) identified active processing as an important factor associated with effective vocabulary learning. When students learn by doing something which involves target words in contexts, this activates the learning process: this is in fact one of the features of CLIL. Moreover, a CLIL approach gives the

chance to deal with a specific topic for a period of time facilitating repeated exposure to new vocabulary. Robinson (2005) carried out a study whose aim was to identify the processes involved while developing L2 word knowledge in subject-matter classrooms. He found that frequent repetition of the key vocabulary by the teachers had a positive effect on L2 vocabulary development.

Besides this line of research, some studies have focused on lexical transfer. The study by Agustin Llach (2009) is an example of this body of research carried out on CLIL and non-CLIL educational settings. Findings, confirming previous ones, such as Celaya's (2007), showed that CLIL students tend to use strategies which imply a lower reliance on L1 and a higher use of L2 rules. These results were later confirmed by Celaya and Ruiz de Zarobe (2010) in their study conducted in two bilingual autonomous communities, Catalonia and The Basque Country. They concluded that the production of "borrowings" was clearly influenced by the type of instructional context. CLIL students used a significantly lower number of "borrowings" than their non-CLIL counterparts, showing once again, that the latter relied more on the use of their L1.

In a different line of research, results of two studies by Sylvén (2004 and 2006) conducted in secondary schools in Sweden, displayed a positive correlation between hours of exposure, vocabulary acquisition and communicative competence in the target language. Although CLIL students showed greater vocabulary knowledge than their non-CLIL counterparts, other factors such as the fact they had had a higher exposure to the target language after school (television, internet and reading) may have also had an effect on the results.

It seems that the effect of the CLIL approach is clearer in receptive than in productive vocabulary. For example, Jiménez Catalán, Ruiz de Zarobe and Cenoz (2006) and Jiménez Catalán and Ruiz de

Zarobe (2009) found out significant differences in receptive vocabulary size in CLIL⁸. When it came to productive vocabulary, results were not so conclusive, though.

In a similar line of studies, Moreno Espinosa (2009) found no significant differences between the vocabularies of 130 primary school students in both educational settings in Spain⁹. A study conducted by Xanthou (2007) in public primary schools in Cyprus with students aged 11 revealed that CLIL may provide more opportunities not only to activate the learner's previous knowledge and to learn vocabulary in context, but also to actively process new vocabulary. In her study, she compared three different groups (CLIL, non-CLIL and non-CLIL exposed to the word list method) in a geography class.

However, Jiménez Catalán and Ojeda (2009) measured lexical availability, in other words, how easily a word can be generated in a given category, among 86 11/12-year-old primary school students in both educational contexts. Surprisingly, the results showed that the non-CLIL group produced a significantly higher number of words in each category and as a whole.

The present section has been aimed at reviewing different research studies on the line of vocabulary learning. The lexicon usually includes general words and more technical ones, which are part of the subject's content. Findings seem to support the idea that CLIL might have a positive effect on the acquisition of general vocabulary of the target language, receptive vocabulary being more clearly affected than the productive one. Yet, more evidence on the impact of the CLIL approach on more specific, technical content-related vocabulary both in production as in reception is needed. Moreover,

⁸ Two vocabulary tests based on Nation (1993) were used for these studies: the 1,000 word receptive test and the 2,000-frequency band of the receptive version of the Vocabulary Level Test (VLT).

⁹ The Lex 30 (Meara/Fitzpatrick 2000) test of productive vocabulary was used for this study.

most studies are cross-sectional and very few have followed a pre-test/immediate post-test/delayed post-test design.

In this study, specific content-related vocabulary of the didactic unit "Climbing" of Physical Education (P.E.) taught through English will be our target vocabulary. The choice of this particular vocabulary is due to two reasons. The first one is to do with the fact that the learning of specific vocabulary of the different subjects is one of the objectives of the curriculum. By targeting this particular type of vocabulary we are focusing on the learning of content of the subject matter which has received little attention in research. The second reason for choosing content-related vocabulary is to do with our intention to control for the possible influence of after school English lessons where such technical vocabulary is not likely to be dealt with.

3.3. Gender and FLL

Since possible gender-related differences will be considered in our study, we will pay attention in the following paragraphs to gender issues (always highly controversial). Gender has received a great deal of attention in research on FLL during the last three decades and results seem to suggest that it is a variable which plays a significant role. A range of factors, such as developmental and cultural features, seem to converge with gender and influence each student's experience of foreign language acquisition (San Isidro, 2010). Research studies are many in the field and have covered L2 attainment, performance and motivational issues.

Research in FLL unanimously states that language uptake is imbalanced between male and female students. Amongst others, it has been found that females seem to employ more learning strategies or employ them more effectively (Ehrman and Oxford, 1990); that women and men are inclined to different learning styles (Brassard, 2004), that boys are less motivated (Clark and Trafford, 1995)

and tend to show more resistance towards the need to learn a foreign language (Powell and Batters, 1985). Finally, boys tend to show less overall commitment to the learning of FL than girls, whatever the FL is (Dörnyei *et al.*, 2006).

Interestingly, research findings seem to suggest that all the mentioned gender-related differences tend to tone down in CLIL contexts (Merisuo-Storm, 2007; Yassin, Marsh *et al.* 2009; San Isidro, 2010). A possible reason that has been put forward is that in CLIL contexts females and males seem to be equally motivated to learn a FL. Schmidt, Boraie and Kassagby (1996) found that females showed higher level of intrinsic motivation than males who were more extrinsically motivated, concluding that this could explain the reason why they seem to be better language learners. As Lasagabaster (2008) points out, in CLIL settings gender differences seem to blur because male students might feel more motivated to learn both the language and the subject matter.

Our study will be checking the blurring effects of CLIL on gender differences. As we mentioned in the previous section, the subject taught trough CLIL is P.E., a subject in which, in the academic year 2009-2010 in Navarre, males and females obtained similar results, as it is shown in table 1.

LEVEL	MALES	FEMALES
1 st grade of secondary education	92%	93.05%
2 nd grade of secondary education	94.05%	94.67%
3 rd grade of secondary education	95.83%	95.35%
4 th grade of secondary education	97.27%	97.16%

Table 1. Passing marks in percentages in P.E. in Navarre in the school year 2009-2010.

In the last three sections, we have reviewed research studies on affective factors (motivation and self esteem), learning of vocabulary, and gender related issues in CLIL and EFL settings. The literature

seems to bear out that CLIL has a positive effect on affective factors and vocabulary learning, while

CLIL seems to tone down gender differences in FLL.

In the following lines, the goal of the present study will be described. It is threefold. Firstly, we will

assess three of the purported benefits of CLIL (positive effect on motivation and self-esteem,

effectiveness on vocabulary learning, and its blurring effect on gender differences). Secondly, our

aim is, on the one hand, to contribute to the scarce body of research on the effect of CLIL on the

learning of content and on the other hand, to compare CLIL and EFL contexts. Our third and final

objective seeks to undertake research on motivation from the framework of the "L2 Motivational

Self System" on CLIL in Navarre, a context where, to our knowledge, no study has been carried out

in this field of research so far.

Apart from this, we must mention that the vocabulary learning, motivation and the blurring of gender

differences will be assessed with a group of students who enrolled for a CLIL programme voluntarily

without any kind of entrance examination. This allows the researcher to control for the possible

effect of students' selection before entering CLIL programmes.

We have concluded this introductory section of the paper by stating our aims for this study. In the

following section the research hypotheses will be put forward.

4. HYPOTHESES

Affective factors: motivation and self-esteem

In accordance with studies which seem to confirm that a CLIL approach benefits learners'

motivation and self-esteem the first and second hypotheses of this study posit the following:

1. CLIL students will be more motivated than their non-CLIL counterparts.

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2. Within the CLIL group, students will show higher motivation and self-esteem in the P.E. class in English (CLIL approach) than in their conventional EFL class.

Technical content-related vocabulary

In light of the literature review on the positive effect of CLIL on the learning of vocabulary, the third hypothesis of this study is as follows:

3. Learners who are exposed to a CLIL intervention in P.E. will perform better (get higher scores) in content-related vocabulary post-tests (immediate and delayed) than in the same test taken previous to the treatment.

Gender-related differences

In accordance with research that seems to indicate that gender-based differences tend to tone down in CLIL programmes, the fourth and fifth hypotheses postulate the following:

- 4. There will not be gender-based differences in the CLIL group in motivation, whereas differences are expected in the non-CLIL group.
- 5. There will not be gender-based differences in the CLIL group in the results of the vocabulary tests.

5. THE STUDY

5.1. The research context and methodology

The study was conducted in the rural area of *Bortziriak* (Navarre, Spain). This area is situated in the Basque-speaking area of Navarre. As pointed out above, Basque, the minority language is co-official in the Northern area of Navarre along with Spanish, in a similar way to the BAC.

The CLIL project of the study belongs to the "Bilingual Sections of Secondary Education". Although these programmes have been adopted in different Spanish communities, in Navarre they started to spread in the school year 2007-2008. The data for the school year 2010-2011 in Navarre show that 1240 students were enrolled in plurilingual programmes in 15 different state secondary schools and in a wide variety of subjects ranging from P.E. to Physics and Chemistry (Appendix A). According to the data available on the official webpage of the Department of Education¹⁰, the number of students in the programme has been increasing since it started 4 years earlier, as shown in table 2.

YEAR	GROUPS	STUDENTS
2007-08	12	335
2008-09	23	538
2009-10	40	880
2010-11	57	1.240

Table 2. Plurilingual programmes in secondary public schools in Navarre.

The study was conducted in a Secondary School of the rural area of the Basque-speaking zone of *Bortziriak (Baztan-Bidasoa)* which provides the whole secondary schooling (both compulsory and post-compulsory) for the area. It is a state school which offers the three possible educational linguistic models: A model, B model and D model. The school had been involved in the previous four years in two different CLIL projects, one teaching History and Geography through French, and one teaching P. E. through English. The present study is focused on the latter.

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The educational intervention. Physical Education through English: "CLIMBING" didactic unit.

This CLIL project had started 4 years earlier in the 1st year of Secondary School. Every year, the programme was extended to the following grade. The year the study was conducted, the programme had reached its 4th year and the students were on their last year of the CLIL programme and of Compulsory Secondary Education.

In this CLIL programme, only part of the whole curriculum of P. E. was taught through English. The percentage of instruction in English varied from one grade to the next, but always in an increasing way. The percentages according to the grade and the different didactic units are shown in table 3.

Year	% of P.E sessions with CLIL	TERM	P.E didactic units
		1	Baseball
1 st	15%	2	Juggling
		3	Volleyball
		1	Basketball
2 nd	30%	2	Frisbee
		3	Volleyball
		1	Diabolo
3 rd	50%	2	Volleyball
		3	Hockey
		1	Endurance
4 th	66%	2	Badminton
		3	Climbing
			Speed

Table 3. Information about the CLIL programme on P.E.

Two teachers from the English Department and the CLIL teacher of P.E. used to meet once a week in order to coordinate the implementation of the programme. The two teachers of English also worked on the translation of the materials. These materials were first presented by the FL teacher in one or two sessions so that students could work on specific vocabulary before the P. E. class.

The didactic unit of "Climbing" was chosen for the study. It consisted of 12 sessions of 1 hour each (10 teaching sessions and 2 sessions for assessment) of P. E. through English plus 1 session in the EFL classroom.

5.2.Participants.

The sample consisted of 46 students belonging to 2 different groups, CLIL (25 students, 12 girls and 13 boys) and non-CLIL (21 students, 10 girls and 11 boys), in their last year of Compulsory Secondary Education. The majority of them (90%) were enrolled in D model; the rest, all males, were in B model. They had started learning English at the age of 6, in their first year of primary education. By the time we tested them they had had approximately 1080 hours of EFL (3 hours a week) at school and their English proficiency level ranged from A2 to B1 on the basis of the Common European Framework of Reference of Languages (CEFR) of the Council of Europe. The CLIL group had been taking part in the project for four years and had attended around 110 sessions of CLIL by the time they were tested (pre-test). They were at the end of the second term (March). Entering the CLIL programme was voluntary and no entrance examination had to be taken. All the participants also attended three EFL sessions a week where CLIL and non-CLIL students were mixed together.

A background questionnaire (Appendix B) established that all the students were bilingual Basque-Spanish speakers although their home language(s) varied. In the CLIL group, we found the following L1s: Basque only (50 %), Spanish only (23 %), Basque and Spanish (23 %) and Basque and English (3. 8%). This last percentage related to a female student whose data were eliminated (originally the sample was made up of 47 subjects, but this student was finally discarded). They also reported that the language(s) they used to speak with their friends were only Basque (80.76 %), Spanish and Basque (19.23 %) and nobody reported using only Spanish with friends. 57.7% were enrolled in a programme of collaboration between the Official School of Languages of Navarre of Distance Learning¹¹ and secondary schools where the students are prepared and assessed in official certificates for languages (Basque, French and English). As for the exposure to English outside school, 69.23 % of the participants reported attending English lessons an average of 1.7 hours per week and they had been attending these private extracurricular classes for an average of 5 years. 61.5 % also reported having had some kind of summer courses abroad or in the country.

As for the non-CLIL group, results showed that this group had a smaller contact with the foreign language. Only 33.33 % were enrolled in the Official School of Languages of Navarre of Distance Learning, fewer attended after school English classes (57.14 % and only 23.8% had attended summer courses abroad or in the country). They also tended to use slightly more Basque at home and with friends. A summary of the students' data, including the differences according to gender, can be seen in table 4.

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¹¹ More information about the programme can be found in http://eoidna.educacion.navarra.es/

BACKGROUND INFOR	MATION		CLIL		NON-	CLIL	
		GIRLS	BOYS		GIRLS	BOYS	
		12	13		10	11	
OFFICIAL SCHOOL OF	ENGLISH		60%		33.3	3 %	
		10	5		5	2	
AFTER SCHOOL ENGI	ISH CLASSES	72 % (5 year	rs/1.7 h per week)		57.14 %(6years/	(1.6 h per week)	
		9	9		6	6	
SUMMER COURSES AI	BROAD OR IN THE COUNTRY		64 %		23.8	3 %	
		8	8		3	2	
LANGUAGES	Basque		52 %		61.9	9 %	
SPOKEN AT HOME		6	7		7	6	
	Spanish	24 %			9.52 %		
		2	4		0	2	
	Basque & Spanish		24 %		28.57 %		
		4	2		3	3	
LANGUAGES	Basque		84 %		85.7	1 %	
SPOKEN WITH		11	10		8	10	
FRIENDS	Spanish		0%		09	%	
		0	0		0	0	
	Basque & Spanish		20%		14.2	8 %	
		2	3		2	1	

Table 4. Answers to the background questionnaire.

5.3. Instruments

5.3.1. Motivation and self-esteem questionnaire

In order to ascertain the participants' affective factors (motivation and self-esteem), two multi-item questionnaires (Appendix B) were developed based on previous studies in the area of L2 motivation (Henry, 2009; Taguchi *et al.*, 2009; Lasagabaster, 2011): one was designed for the CLIL group and one for the non-CLIL group. The items were presented on a five-point Likert type scale going from 1 (strong disagreement) to 5 (strong agreement), and the negative items were recoded before data

analysis. Items 7, 17, 19 and 27 were negative towards the language-learning situation in an attempt

to make students pay careful attention when filling out the questionnaire.

The questionnaire for the non-CLIL group consisted of 25 items (gathered into 5 clusters:

INSTRUMENTAL ORIENTATION/THE IDEAL L2 SELF/THE **OUGHT-TO** L2

SELF/LEARNING ENGLISH IN EFL CLASS/SELF-ESTEEM IN EFL CLASSROOM) and one

open question, whereas the questionnaire for the CLIL group, which included the same 25 items and

open question, had 8 extra items (corresponding to two new clusters: LEARNING ENGLISH IN

CLIL CLASS/SELF-ESTEEM IN CLIL CLASSROOM) and an additional open question. We

decided not to include integrativeness assuming that Csizér's and Kormos's (2009) findings

(integrativeness was only moderately related to attitudes to English as an international language

among secondary students in Hungary) could be applied to our context and because our main goal

was comparing CLIL and EFL approaches.

In order to avoid the disadvantages of instruments based only on closed questions (Oppenheim

1992), we decided to include closed and open questions which were devoted to ask about students'

feelings towards the two approaches.

The different clusters of the closed questionnaire elicited information about the following aspects:

➤ INSTRUMENTAL ORIENTATION: items 1-7

> THE IDEAL L2 SELF: items 8-14

➤ THE OUGHT-TO L2 SELF: items 15-18

➤ ATTITUDES TOWARDS LEARNING ENGLISH IN EFL CLASS: items 22,23,24¹²

➤ SELF-ESTEEM IN EFL CLASSROOM: items 19, 21 and 25

¹² The procedure performed by Dörnyei and Csizèr (1998: 213) was also followed in this study (see data analysis section).

- ➤ ATTITUDES TOWARDS LEARNING ENGLISH IN P.E. (CLIL): items 26, 28 and 31¹³
- > SELF-ESTEEM IN P.E. (CLIL) classroom: items 27, 32 and 33

There were also a few independent items:

> Items 20, 29 and 30.

The questionnaire was piloted among similarly-aged pupils not included in the sample prior to the initial administration.

5.3.2. Vocabulary test

Students' learning of content-related vocabulary was tested with a written vocabulary test (Appendix C) specifically created for this study which consisted of two parts. The first one was designed to measure the production of the vocabulary of climbing, and the second part measured its comprehension. As our study was aimed at testing the effectiveness of CLIL on the learning of vocabulary related to P. E. (climbing), a specific test had to be created, as no other test previously used in similar studies could fulfil these requirements.

In the first activity of the production part, students were given 9 pictures and asked to name in English different objects represented by these pictures. The second activity was similar and students were given 6 pictures representing different climbing techniques and were asked to write down their names. The next two exercises consisted of cloze tests where 10 words were missing.

As for the comprehension part of the test, students were first asked to match 5 pictures with their names. Then, they had to match 4 words with their definitions in English. In the third exercise, they had to choose from a box with 20 words (9 were the right answers and 11 were distractors) in order to name 9 objects. These objects were the same objects used in the first exercise of the production

¹³ The procedure performed by Dörnyei and Csizèr (1998: 213) was also followed in this study (see data analysis section).

part, but we decided to use them again in order to assess the extent to which they were able to understand them, although they might not have been able to produce them. Finally, students had a cloze test. For this last exercise and similarly to the previous one, students were given a list of possible answers to choose from (7 right answers and 9 distractors). To control for the test-retest effect, we decided to follow a similar method to the one used by Ammar and Spada (2006). Different sets of pictures were used for each testing session (pre-test, immediate post-test, and delayed posttest). For the immediate post-test, 2 different models (model A and model B) were used for each half of the group of students. We swapped the same two models at the time of the delayed post-test, so that, for instance, students who had taken model A at the immediate post-test would take model B at the delayed post-test. However, we took care to keep some pictures constant to allow for the effects of the treatment over time to show. For example, some pictures were kept constant between the pretest and the test model A, and some others were kept constant between the pre-test and the test model B. Some pictures were also kept constant between test model A and test model B. The same principle was applied with definitions, although one item was changed in the model B and for another item we used a synonym. As for the cloze tests, those used in the production part in the pre-test were used in the comprehension one in the model A and vice versa. Furthermore, a new piece of text was introduced in the two post-tests. We also randomized the parts of the tests and the items with pictures. For each testing session we had a total of 50 items, 25 in the production part and 25 for the comprehension one.

When selecting the vocabulary items, we tried to avoid cognates as far as possible and frequent common words. The vocabulary was taken from the class notes of the students.

The test was piloted once previous to its administration with a sample of 2 students of the same population.

5.4. Procedure

The motivation questionnaire was administered at the same time to the CLIL and non-CLIL groups which were located in two different classrooms. The reason for splitting the two groups up was that the CLIL group would be given the vocabulary test after the motivation questionnaire, while the non-CLIL group would go on with their scheduled programme once they had completed the questionnaire. However, it must be mentioned that we had to administer the questionnaire and the subsequent vocabulary test at two different times because 5 of the students in the CLIL group had gone to a school trip. Those 5 students were tested 4 days later, on their very first morning at school after coming back from their trip.

The researcher first entered the non-CLIL group's classroom and handed out the questionnaires, read out loud the general information and the background questions (anonymity was assured by asking for birth date and mother's name instead of participant's name). We also attended any doubts the students asked. After a while, the researcher left the group with their teacher and moved to the CLIL group to repeat the process. All the questions were written in Basque for the students to understand them. It took them an average of 20 minutes to complete the questionnaire. 10 minutes after all the participants had handed in the questionnaires, we gave out the vocabulary test (pre-test). The instructions were read aloud by the researcher who allowed students to seek clarification of doubts at any time during the test. This time, the instructions for the activities were written in English and Basque in order to make sure all the participants would understand them. For each activity an example was provided.

One version of the test for the 25 students at the time of the pre-test was used. From the two other versions we created for the post-tests, one was given to half of the students at the time of the immediate post-test, whereas the other version was administered to the second half of the group. At

the time of the delayed post-test, we just proceeded the other way round, giving each half of the students the version which was new for them.¹⁴

The same procedure of the vocabulary test was followed for the two post-tests. The immediate posttest was administered after 9 sessions of climbing, in the 10th hour, 7 weeks after the pre-test. In between, apart from the classrooms sessions, all the students had enjoyed a school trip and Easter holidays. As a matter of fact, the immediate post-test took place 3 weeks after the last CLIL session. Eventually, the delayed post-test was administered a month after the immediate one.

6. RESULTS

In this section we will present our results following the hypotheses of our research study. First of all, general results of the affective factors (motivation and self-esteem) will be examined. To do so, we will analyse the data from the different clusters and items. Afterwards, we will deal with the contentrelated vocabulary test at the three different times of testing. Finally we will answer to our last hypotheses focusing on gender differences. Eventually we will complement our study with the qualitative data from the open questions of the affective factors questionnaire.

→ Affective factors (motivation and self-esteem questionnaire)

First of all, Alpha Chronbach reliability analyses were run in order to check for the interrelationships among the items included in the affective factors questionnaire, as this kind of analysis summarizes the underlying patterns of correlation among the different variables by reducing the data into a smaller number of clusters of related items. It must be mentioned that reliability analysis has been widely performed in L2 motivation research, due to the multidimensional character of motivation. We analyzed the items in order to check for the underlying factors we expected to find, as we were

¹⁴ We thanked students for their participation and gave them a homemade brownie after the questionnaire (non-CLIL group) and after the test (CLIL group).

using what proved to fit in clusters. Therefore, the data was reduced into five clusters whose internal consistency was as follows:

- ► INSTRUMENTAL orientation: items 1-7; $\alpha = 0.629$
- THE IDEAL L2 SELF: items 8-14; $\alpha = 0.924$
- THE OUGHT-TO L2 SELF: items 15-18; $\alpha = 0.680$
- > SELF- ESTEEM IN THE EFL CLASSROOM: items 19, 21 and 25; $\alpha = 0.601$
- SELF- ESTEEM IN THE P.E. (CLIL) CLASSROOM: items 27, 32 and 33; α = 0.596
 The procedure performed by Dörnyei and Csizèr (1998: 213) was also followed in this study and
 "...items which reduced the internal consistency of a scale were omitted from the scales and were treated as single-item variables":
- \triangleright Attitudes towards learning English in EFL class: items 22,23,24; $\alpha = 0.510$
- Attitudes towards learning English in P.E. (CLIL): items 26, 28 and 31; $\alpha = 0.425$

Concerning our first hypothesis, CLIL students would be more motivated than their non-CLIL counterparts; table 5 presents the descriptive statistics for results on the first four clusters for CLIL and non-CLIL groups.

		N	Mean	Std. Deviatio	Minimum	Maximum
INSTRUMENTAL	CLIL	25	3.16	.472	2	4
	non-CLIL	21	2.95	.589	2	4
IDEAL L2 SELF	CLIL	25	3.08	.953	1	4
	non-CLIL	21	2.71	1.05	1	4
OUGHT-TO L2 SELF	CLIL	25	1.68	.627	1	3
	non-CLIL	21	1.47	.601	1	3
SELF- ESTEEM EFL	CLIL	25	2.12	.666	1	3
	non-CLIL	21	1.9	.768	1	3

Table 5. Descriptive statistics for results on these four clusters for CLIL and non-CLIL groups.

Results revealed that the CLIL group had always higher scores in these 4 clusters. However, the means were not very high, especially with regards to the two last clusters. Since, in this case, the data were not normally distributed, we performed a non-parametric test of means comparison for independent samples (Mann-Whitney Test). The results of the Mann-Whitney test applied to the mean motivation at both groups gave us the values described in Table 6.

	Mean Rank CLIL	Mean Rank non-CLIL	Sig.
INSTRUMENTAL	25.35	21.31	.199
IDEAL L2 SELF	25.60	21	.225
OUGHT-TO L2 SELF	25.36	21.29	.250
SELF- ESTEEM EFL	25.18	21.50	.313

Table 6. Results of inferential statistics for results on these four clusters for CLIL and non-CLIL groups.

Results of inferential statistics showed that there were not statistical differences between CLIL and non-CLIL groups on these 4 clusters. We proceeded the same way for the independent items (20, 22, 23 and 24) and results are shown in tables 7 and 8.

		N	Mean	Std. Deviat.	Minimum	Maximum
20.I like English	CLIL	25	3.4	1.04	1	5
	non-CLIL	21	3.52	1.03	1	5
22.I think English lessons help me to improve my written English	CLIL	25	3.8	.577	3	5
(reading and writing)	non-CLIL	21	3.29	.956	1	5
23.I do my best(speaking English) in the English classroom	CLIL	25	3.68	.69	3	5
	non-CLIL	21	3.10	1.136	1	5
24.I think that English classes help me to improve my oral English	CLIL	25	3.64	.757	1	5
(speaking and listening)	non-CLIL	21	3.43	.746	2	5

Table 7. Descriptive statistics for results on items 20, 22, 23 and 24 for CLIL and non-CLIL groups.

	Mean Rank CLIL	Mean Rank non-CLIL	Sig.
20.I like English	23.02	24.07	.779
22.I think English lessons help me to improve my written English (reading and writing)	26.66	19.74	.053
23.I do my best(speaking English) in the English classroom	27.00	19.33	.039
24.I think that English classes help me to improve my oral English (speaking and listening)	25.56	21.05	.203

Table 8. Results of inferential statistics for results on items 20, 22, 23 and 24 for CLIL and non-CLIL

As expected, the CLIL group showed higher means in the majority of the items. However, the non-CLIL group obtained a higher mean in item 20 (I like English). Although differences between the two groups were found, only the difference in item 23 (I do my best (speaking English) in the English classroom) was significant (p < 0.05).

Therefore, the results so far do not confirm our first hypothesis. In other words, although our CLIL students obtained higher scores than their non-CLIL counterparts on the four clusters and 3 out of 4 the independent items, differences were not significant, except for item 23.

In order to answer our second hypothesis, namely that CLIL students would show higher motivation and self-esteem in the P.E. class in English (CLIL approach) than in their conventional EFL class, and, since the data were not normally distributed either, a non-parametric test of means comparison for dependent samples (Wilcoxon signed ranks test) was run to compare the two clusters on self-esteem (SELF-ESTEEM IN THE P.E. CLIL CLASSROOM and SELF-ESTEEM IN THE EFL CLASSROOM). The results of the descriptive statistics and the Wilcoxon signed ranks test can be seen in tables 9 and 10.

Descriptive Statistics										
N Mean Std. Deviat. Minimum Maximum										
SELF ESTEEM P.E. CLIL	25	2.40	.577	1	3					
CLASSROOM										
SELF- ESTEEM EFL	25	2.12	.666	1	3					

Table 9. Descriptive statistics for results on the two clusters on self esteem within the CLIL group.

Test Statistics ^b									
	SELF-ESTEEMEFL – SELF-ESTEEM P.E. CLIL								
	CLASSROOM								
Z	-2.111ª								
Asymp. Sig. (2-tailed)	.035								

Table 10. Results of Wilcoxon signed ranks test on the two clusters on self- esteem within the CLIL group.

Not only were the scores on self-esteem higher in the P.E. CLIL classroom compared to those in the EFL one, but the difference happened also to be statistically significant (p < 0.05).

We proceeded the same way to compare within the CLIL group independent items (22-31/23-28/24-26/20-29/30) concerning language learning enjoyment/effort/perceived effectiveness in CLIL and EFL settings. Descriptive and inferential results are shown in tables 11 and 12.

Descriptive Statistics										
	N	Mean	Std. Deviat.	Minimum	Maximum					
31.I think P.E. lessons in English help me to improve my written	25	3.28	.843	2	5					
English (reading and writing)										
22.I think English lessons help me to improve my written English	25	3.80	.577	3	5					
(reading and writing)										
28.I do my best (speaking English) in the P.E classroom	25	3.96	.735	2	5					
23.I do my best (speaking English) in the English classroom	25	3.68	.690	3	5					
26.I think doing P.E. in English helps me to improve my oral English	25	3.88	.927	2	5					
(speaking and listening)										
24.I think that English classes help me to improve my oral English (speaking and listening)	25	3.64	.757	1	5					
29.1 like P.E.	25	3.72	1.308	1	5					
20.I like English	25	3.40	1.041	1	5					
30.I like P.E. in English	25	4.00	.707	3	5					

Table 11. Descriptive statistics for results on independent items (22-31/23-28/24-26/20-29/30) within the CLIL group.

		Test Statisti	ics ^c						
	22. I think	23.I do my	24.I think that	20.I like English -	29.I like P.E 30.I				
	P.E. lessons in	best(speaking	English classes	29.I like P.E.	like P.E. in English				
	English help me to	English) in the	help me to						
	improve my written	English	improve my oral						
	English (reading and	classroom - 28.	English (speaking						
	writing) - 31.I think	I do	and listening) -						
	English lessons help	my best	26.I think doing						
	me to improve my	(speaking	P.E. in English						
	written English	English) in the	helps me to						
	(reading and writing)	P.E. classroom	improve my oral						
			English (speaking						
			and listening)						
Z	-2,285ª	-1,645 ^b	-,914 ^b	-,727 ^b	-1,054 ^b				
Asymp. Sig. (2-tailed)	,022	,100	,361	,467	,292				
a. Based on negative ranks.									
b. Based on positive ranks.									
c. Wilcoxon Signed Ranks Te	est								

Table 12. Results of Wilcoxon signed ranks test on independent items (22-31/23-28/24-26/20-29/30) within the CLIL group.

Results indicated that scores were higher on items related to P.E. CLIL classroom, showing that students speak more English in this educational context, think P.E. CLIL classes help them more in their oral skills, like P.E. more than English and also prefer P.E. CLIL to P.E. No statistical differences were found, though, except for items 22 and 31 (p-value < 0.05), showing that students find that the EFL classroom helps them to improve their written skills more than the P.E. CLIL classroom.

Technical content-related vocabulary

Taking into account our third hypothesis, we aimed at finding out whether learners who were exposed to a CLIL intervention in P.E. would perform better (get higher scores) in technical content-related vocabulary post-tests (immediate and delayed) than in the same test taken previous to the educational intervention (didactic unit: "Climbing"). A preliminary examination of the data showed that the three sets of scores were normally distributed and Mauchly's test of sphericity was not statistically significant (see appendix D, tables 21 and 22). Therefore, we decided to run a Repeated-Measures

ANOVA (RM ANOVA) which is only one of a number of possible analyses that could be run on our data (see Lyster, 2004). We decided to double check our results running T-Test for dependent samples (pre-test and immediate post-test/ pre-test and delayed post-test). The results are shown in tables 13, 14 and the following diagrams.

Descriptive Statistics										
		Pre-test Immediate Post-test						Delayed	Post-test	
	N	Mean	Std. Deviat.	N	Mean	Std. Deviat.	N	Mean	Std. Deviat.	
Production	25	1.24	0.96	25	10.68	3.93	25	8.80	4.02	
Comprehension	25	4.60	1.97	25	13.20	4.88	25	10.64	4.95	
Overall	25	5.84	2.17	25	23.88	8.27	25	19.44	8.31	

Table 13. Descriptive Statistics for vocabulary tests' scores at the three testing times.

Results evidenced that there was a significant improvement from the pre-test to the immediate post-test and then, although there was a decline in scores from the immediate post-test to the delayed post-test, the improvement from the first testing time to the last one was still statistically significant.

Source	Measure	Time	Type III Sum of	df	Mean square	F	Sig
			Squares				
TIME	Overall Tests	Linear	2346.318	1	2346.318	101.829	.000
		Quadratric	2102.402	1	2102.402	114.939	.000
	Production	Linear	723.766	1	723.766	120.493	.000
		Quadratric	533.725	1	533.725	117.904	.000
	Comprehension	Linear	463.795	1	463.795	58.649	.000
		Quadratric	517.538	1	517.538	73.571	.000

Table 14. Results for effect of the intervention over time.

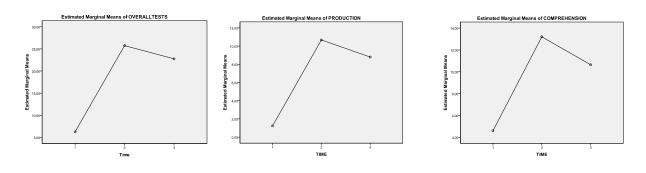


Figure 1. Diagrams showing overall tests, production and comprehension scores at the 3 testing times.

As table 14 shows, these values were significant at p < .000 level. Results showed a statistical effect for the differences between the three testing times in the overall test, as well as in each of its respective parts (production and comprehension), confirming our third hypothesis. Therefore, the educational intervention (Didactic unit of "Climbing") was effective as for the learning of technical content-related vocabulary.

Gender differences

Concerning our fourth hypothesis, i.e. there would not be gender-based differences in the CLIL group in motivation, whereas differences were expected in the non-CLIL group, we performed a non-parametric test of means comparison for independent samples (Mann-Whitney Test) to compare males and females in the CLIL group first on the 5 clusters and independent items. We must remember that our data from the affective factors' questionnaire was not normally distributed. The results of the Mann-Whitney test applied to the mean motivation at both genders gave us the values described in table 15 (for results of inferential statistics, see appendix D, table 23).

	GENDER	N	Mean	Z	Asymp. Sig. (2-tailed)
INSTRUMENTAL	Female	12	15.00		
	Male	13	11.15	-1.754	.079
	Total	25			
IDEAL L2 SELF	Female	12	13.88		
	Male	13	10.19	607	.544
	Total	25			
OUGHT- TO L2 SELF	Female	12	9.96		
	Male	13	15.81	-2.225	.026
	Total	25			
SELF-ESTEFL	Female	12	12.75		
	Male	13	13.23	182	.855
	Total	25			
SELF-ESTEEM P.E. CLIL	Female	12	12.00		
CLASSROOM	Male	13	13.92	741	.459
	Total	25			

Table 15. Results for effect of gender in the CLIL group in 5 clusters

On the one hand, results showed that females had higher scores in the two first clusters (INSTRUMENTAL and IDEAL L2 SELF), even though the differences were not statistically significant. Males, on the other hand, obtained higher scores in the 3 last clusters (OUGHT-TO L2 SELF, SELF-ESTEEM IN THE EFL SETTING AND SELF-ESTEEM IN P.E. CLIL CLASSROOM) being the difference for the 3rd cluster (OUGHT-TO L2 SELF) the only significant one. As for independent items, the results are shown in table 16 (appendix D, table 24).

	GENDER	N	Mean	Z	Asymp. Sig. (2-tailed)
31.I think P. E. in English helps	- Female	12	10.08		
me to improve my written	- Male	13	15.69	-2.048	.041
English (reading and writing)	- Total	25			
22. I think English lessons	Female	12	13.38		
help me to improve my written	Male	13	12.65	289	.772
English (reading and writing)	Total	25			
28. I do my best	Female	12	14.75		
(speaking English) in the P.E.	Male	13	11.38	-1.299	.194
classroom	Total	25			
23.I do my best (speaking	Female	12	11.50		
English) in the English	Male	13	14.38	-1.075	.282
classroom	Total	25			
26.I think doing P.E. in English	Female	12	13.33		
helps me to improve my oral	Male	13	12.69	229	.819
English (speaking and	Total	25			
listening)	-				
24.I think that English classes	Female	12	12.33		
help me to improve my oral	Male	13	13.62	514	.607
English (speaking and	Total	25			
listening)	-				
29.I like P.E.	Female	12	9.92		
	Male	13	15.85	-2.091	.037
	Total	25		│ 	
20.I like English	Female	12	14.58		
	Male	13	11.54	-1.096	.273
	Total	25		├	
30.I like P.E. in English	Female	12	10.63	 	
	Male	13	15.19	-1.698	.089
	Total	25			

Table 16. Results for effect of gender in the CLIL group on independent items.

Once again, differences between both genders can be observed, but only those concerning items 29 (I like P.E.) and 31 (I think English lessons help me to improve my written English (reading and writing) were significant. While females like English more than males (item 20, not significant though), the latter like P.E. (item 29) more, included when it is in English (item 30, not significant). Even though the difference was really small, looking at the results for items 29 and 30, the fact that P.E. is in English makes females like it a little bit more. Males also think that P.E. in English also helps them to improve their written skills (item 31). Results also show that females try their best at speaking English in both educational approaches (items 23 and 28, not significant). For items 22 (I think English lessons help me to improve my written English -reading and writing), 24 (I think that English classes help me to improve my oral English -speaking and listening) and 26 (I think doing P.E. in English helps me to improve my oral English -speaking and listening), the answers were quite similar for both genders. Therefore, answering the first part of our 4th hypothesis, both genders did not show significant differences for 4 out of 5 clusters and 7 out of 9 independent items. The statistically significant differences found between females and males in the CLIL group concerned the OUGHT-TO L2 SELF and items 29 and 31. Results for the items seem to point out that males in the CLIL group tend to enjoy P.E. more and find that its being taught in English helps them to improve their writing skills. The fact that males had higher scores for the OUGHT-TO L2 SELF, might indicate that they are more aware than the females on the external demands on learning English, while females motivation has different foundations (INSTRUMENTAL and IDEAL L2 self). Therefore, the first part of our fourth hypothesis was confirmed, as hardly any difference was found in the CLIL group.

We followed the same procedure in order to answer the second part of our fourth hypothesis, whether differences between genders would be found in the non-CLIL group. Results are shown in tables 17 and 18 (for results of inferential statistics, see appendix D, tables 25 and 26).

	GENDER	N	Mean	Z	Asymp. Sig. (2-tailed)
INSTRUMENTAL Female		10	11.40		
	Male	11	10.64	338	.736
	Total	21			
IDEAL L2 SELF	Female	10	13.85		
	Male	11	8.41	-2.082	.037
	Total	21			
OUGHT-TO L2 SELF	Female	10	9.50		
	Male	11	12.36	-1.212	.226
	Total	21			
SELF- EST. EFL	Female	10	10.90		
	Male	11	11.09	075	.940
	Total	21			

Table 17. Results for effect of gender in the non- CLIL group on 4 clusters.

	GENDER	N	Mean	Z	Asymp. Sig. (2-tailed)
20.I like English	Female	10	13.00		
	Male	11	9.18	-1.490	.136
	Total	21			
22. I think English lessons	Female	10	11.80		
help me to improve my written	Male	11	10.27	599	.549
English (reading and writing)	Total	21			
23.I do my best (speaking	Female	10	12.80		
English) in the English	Male	11	9.36	-1.348	.178
classroom	Total	21			
24.I think that English classes	Female	10	11.50		
help me to improve my oral	Male	11	10.55	383	.701
English (speaking and	Total	21			
listening)	-				

Table 18. Results for effect of gender in the non-CLIL group on independent items.

Results illustrated that although differences were found between males and females, similar to those observed in the CLIL group, only one was statistically significant. It was related to one of the 4

clusters (IDEAL L2 SELF). No statistical differences were found for this group on independent items. In the light of these results and answering the second part of our 4th hypothesis, both genders showed significant differences only in the case of the IDEAL L2 SELF. Females in the non-CLIL group seem to have a higher projection of their image as future users of English than the males. Results confirmed the trend for the males in the CLIL group related to the OUGHT-TO L2 SELF. In the non-CLIL group the difference was not significant, though. Therefore, our second part of the fourth hypothesis was not confirmed as more differences were expected within the non-CLIL group between females and males.

We eventually proceeded to check our fifth and last hypothesis, that there would not be gender-based differences in the CLIL group in the results of the vocabulary tests. We took advantage of the RM ANOVA already run and introduced gender as a factor; results are shown in table 19 and diagrams.

Tests of Between-Subjects Effects								
Transformed Variable: Average								
Source	Measure	Type III Sum of	df	Mean Square	F	Sig.		
		Squares						
Intercept	OVERALLTESTS	20283,250	1	20283,250	219,218	,000		
	PRODUCTION	3595,572	1	3595,572	168,323	,000		
	COMPRHENSION	6799,022	1	6799,022	201,589	,000		
GENDER	OVERALLTESTS	240,370	1	240,370	2,598	,121		
	PRODUCTION	24,372	1	24,372	1,141	,297		
	COMPRHENSION	111,662	1	111,662	3,311	,082		
Error	OVERALLTESTS	2128,083	23	92,525				
	PRODUCTION	491,308	23	21,361				
	COMPRHENSION	775,724	23	33,727				

Table 19. Inferential statistics for effect of gender in the scores of the vocabulary test at the three testing

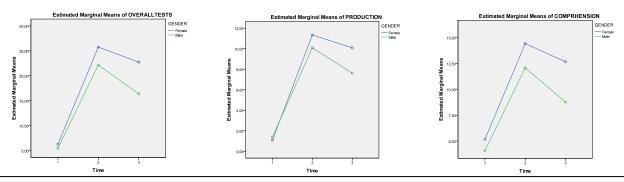


Figure 2. Diagrams showing the effect of gender on overall tests, production and comprehension scores at the 3 testing times.

Despite the fact that female students obtained higher scores than their male counterparts (as can be observed in the diagrams put forward in Figure 2), the differences between both groups of students were not statistically significant, which therefore confirms the fifth hypothesis.

Before ending this section on results, we are now going to comment on the qualitative data from the open questions of the affective factors questionnaires. We should keep in mind that the non-CLIL group were asked one open question: *Describe your feelings towards English (as a school subject)*; whereas the CLIL group were asked two questions: *Describe your feelings towards English (as a subject)* and *Describe your feelings towards P.E. in English.* A summary of the data obtained can be seen in appendix E. We must mention that all the students, males and females alike, completed the open questions properly. In general, females gave longer answers than males and described their feelings in more detail.

Concerning the first open question about their feelings towards English as a school subject, very similar answers were given by both groups (CLIL and non-CLIL) and differences between male and female students were not detected either. Negative feelings ranged from feeling too much pressure, feeling nervous, anxiety, not liking it, too easy, feeling worried about doing wrong, embarrassed, lost, insecure, worse than the others and bored. Nervousness and boredom were the two most

repeated feelings, the latter being the main one for CLIL and non-CLIL students, males and females alike. A female CLIL student stated the following: "Although I manage myself quite well, sometimes I feel quite bad and nervous. I see that the others speak better than me and I don't often try to speak English because I'm afraid to be wrong." A male non-CLIL student described it this way: "Fine and sometimes or nearly always I feel bored." As for positive sentiments towards English as a school subject, students mentioned feeling fine, even very good, feeling self-confident and liking it.

With regard to our second open question about feelings towards P.E. in English and taking into account that only CLIL students were asked, negative feelings were few and answers were similar for both genders. Only one student mentioned feeling more nervous than in the English classroom, another mentioned finding speaking in English difficult and a last female student mentioned not liking P.E. whatever the language was. On the other hand, positive feelings ranged from good, feeling very good, calm, not feeling embarrassed, a good way to practice English, facility to speak, feeling the need to communicate and learning new words everyday for females' answers. A female even mentioned that, in spite of not liking P.E., the fact that it was in English and because it was different made her feel fine and comfortable. These were her words: "I feel very good. Although I don't like P.E., because it is in English and therefore, different, I feel fine. I feel comfortable." As for males' answers, one mentioned understanding in a similar way to the other classmates and another one being easier to understand. English being easier when doing P.E., feeling calmer when speaking, feeling good and being a good way to improve English were some of the answers by male students, too. A male student mentioned the fact that it helped him to practice language in real context. For more comments by students, see appendix E.

Our qualitative data seem to confirm the trend our quantitative data had already pointed out to. That is to say, no significant differences were found when comparing CLIL and non-CLIL groups and the fact that students found themselves motivated and had a higher self-esteem in the P.E. CLIL setting.

In this section we analysed data gathered through the affective factors questionnaires and the technical content-related vocabulary tests. To sum up, our data revealed that there were not major differences between CLIL and non-CLIL students with regards to affective factors. One statistically significant difference was found when comparing the two groups on two clusters, once the factor gender was added. While the females in the CLIL group differed from males in the OUGHT-TO L2 SELF, having males a higher score, in the non-CLIL the same trend was observed but the difference between genders was not significant, and the significant difference was found in the IDEAL L2 SELF scale, females being more positive. What results also attested is that both males and females in the CLIL group have a higher self-esteem in P.E. in English than in the conventional EFL classroom. From the qualitative data results do not show differences between CLIL and non-CLIL groups, nor between females and males. Although many students mention feeling nervousness or anxiety and boredom in the EFL settings (some mention feeling good, too), they also state that this learning context helps to improve written skills. Concerning the P.E. CLIL setting, feeling good and calmer and being a good way of practicing their oral skills in real contexts and for authentic communication aims have been mainly mentioned by students. Finally, the technical vocabulary tests' results indicated, firstly that a specific lexicon was learnt and, secondly, that the educational intervention was somehow effective on the whole, although it was more in the short run (immediate post-test), with a decline in its effectiveness in the long run (delayed post-test). Results also showed that there were not gender related differences.

7. DISCUSSION

In the following lines we will discuss our findings and try to offer some plausible explanation for them. As we mentioned, no main differences between CLIL and non-CLIL students with regards to the affective factors were found, which might be due to different reasons, such as the small size of the sample, the fact that the CLIL programme itself is of a low-middle intensity (the amount of hours of P.E. in English increases through the years of secondary education, but it starts with only 15% of the P.E. curriculum in English) and the fact that students had not been selected before entering the programme. These results seem to contradict earlier investigations which point to a clear effect of CLIL on motivation and self-esteem (Filppula, 1996; Lasagabaster, 2011). Having said that, some interesting findings should be mentioned. Results show that CLIL students have a higher self-esteem in the P.E. CLIL setting compared to the conventional EFL one, leaving no doubts about the effectiveness of the approach on self-esteem. This was also complemented by the qualitative data we gathered from the open questions of the questionnaires, in which the P.E. CLIL setting was described as a chance for practicing oral skills (written ones were more related to the EFL context) in more authentic contexts and for real communication needs, and with less anxiety while overcoming boredom of the conventional EFL classroom.

Another interesting finding related to two out of the three components of Dörnyei's "L2 Motivational Self System" came out when the factor gender was added to compare the CLIL and non-CLIL groups, confirming previous studies which suggest that gender may be a factor in FLL (Oxford, 1994; Dörnyei *et al.*, 2006) and as a consequence, should be taken into account. As we mentioned in the previous section, while the females in the CLIL group significantly differed from males in the OUGHT- TO L2 SELF, in the non-CLIL the same trend was observed but was not significant, and the difference was only significant in the IDEAL L2 SELF cluster, female students showing higher

means. Females in the CLIL group also obtained higher scores at this particular cluster, although it was not statistically significant in this case.

If we take into account that, the first component of Dörnyei's theoretical framework, the "Ideal L2 Self" refers to the representation of all the attributes related to the L2 that a person would like to possess (e.g. desires, aspirations, hopes...), and that it is a powerful motivator to learn the L2, our findings seem to show that it tends to be more related to females. It may be concluded that the difference between genders being only significant in the non-CLIL group could be due to the blurring effect on gender differences attributed to CLIL. Another important result that might have interacted is the fact that males in the CLIL group liked P.E. significantly more than the females. Thus, the idea that in CLIL settings gender differences seem to blur because male students might feel more motivated to learn both the language and the subject matter (Lasagabaster, 2008) could be confirmed. This factor is related to the third component of our theoretical framework, the "Learning environment" which obviously seems to be relevant.

The "Ought-to L2 Self" consists of the attributes that one believes one ought to possess to avoid possible negative outcomes, and which therefore may bear little resemblance to the person's own desires or wishes. In this cluster the results suggest that males' motivation is higher than that of females. Thus, we could conclude that this more extrinsic dimension (or less internalised type of instrumental motives) has been reinforced in males by CLIL.

Our findings seem to confirm that these two components of the "L2 Motivational Self System" play a role in motivation and that Dörnyei's proposal proves to be valid and reliable, confirming previous research studies (e.g. Csizér and Kormos, 2009; MacIntyre et al., 2009; Ryan, 2009; Taguchi et al., 2009). The motivation to learn a second/third/foreign language draws from three primary sources:

the learner's vision of oneself as a proficient and effective L2 speaker, the social pressure coming from his/her environment and positive learning experiences. Evidence for the third and latter component can also be extracted from the qualitative data we described in the previous section.

Last but not least, the technical vocabulary tests' results evidenced that the intervention which consisted of 9 hours of instruction spread over a period of 5 weeks and which was tested at three times (a pre-test before the start of the didactic unit on "Climbing", an immediate post-test 7 weeks after due to the interval of two weeks of holidays and a delayed post-test 4 weeks after the immediate one) was effective in the short run and although some decline in scores was observed at the time of the delayed post-test, such a specific lexicon has been learnt to some extent. This is the line with research studies which show the effectiveness of the CLIL approach on vocabulary learning (Xanthou, 2007), and in this study the effectiveness of the CLIL approach on the learning of technical content-related vocabulary is confirmed, but doubts are raised as for its maintenance over time. According to our data, the effect (immediate and delayed post-tests) has been relevant in both production and comprehension. The fact that the test was administered three weeks after the last class of P.E. due to the holiday break and before they had to study anything for an exam might be relevant. In fact, it could be considered a more implicit kind of learning. On the other hand, as we mentioned in the literature review, research findings seem to support the idea that CLIL might have a positive effect on the acquisition of general vocabulary of the target language, receptive vocabulary being more positively affected than the productive one (Jiménez Catalán, Ruiz de Zarobe and Cenoz, 2006; Jiménez Catalán and Ruiz de Zarobe, 2009). Yet, in our study both types of vocabulary have been affected in a similar manner. Nevertheless, a detailed analysis of our data comparing production vs. comprehension was beyond the scope of our study.

Finally, data from the vocabulary tests also showed that there were not gender related differences, which could be put down to the blurring effects of CLIL (Merisuo-Storm, 2007; Yassin, Marsh *et al.* 2009; San Isidro, 2010).

8. CONCLUSION

The findings from the present study suggest that there are no main motivational differences between the CLIL and the non-CLIL groups. Although the results seem to contradict previous findings, the educational intervention does have some positive effect on particular aspects of students' affective factors (motivation and self-esteem), as well as on the learning of technical content-related vocabulary. However, the effect on affective factors seems to have emerged when gender has been added as a factor. Interestingly enough, results have shown that males seem to have a higher "Ought-to L2 Self" type of motivation towards FLL, whereas the "Ideal L2 Self" tends to stand out more among females. Our findings seem to point out to the intensifying effect of CLIL on males towards the "Ought-to L2 Self" and possibly an enhancing effect on them towards the "Ideal L2 Self", as differences between genders seem to fade down in this learning context. Is it only CLIL? Or does the subject matter, in this case P.E., also interact?

Part of our data, therefore, are consistent with previous findings that show that CLIL tends to tone down differences between genders (Merisuo-Storm, 2007; Yassin, Marsh *et al.* 2009; San Isidro, 2010) and a possible explanation can be related to the fact that male students, who tend not to be motivated FL learners, might have been motivated to learn both the content of the didactic unit on "Climbing" and, as a positive side effect, the FL. This is an issue which merits further consideration in future research studies. Nevertheless, another part of our data, suggests that CLIL has intensified a new gap between genders in the CLIL group related to the "Ought-to L2 Self", as what may be a tendency in the non-CLIL group, becomes significant in the case of the CLIL group.

Another interesting finding is that learners' self-esteem is higher in the P.E. CLIL learning context than in the conventional EFL one. It seems that P.E. CLIL might be a less face threatening context where oral skills can be practiced with less pressure.

Yet, due to the size of our sample and the low intensity of the CLIL programme, all these results should be taken with caution. Therefore, further research with more participants and data is needed to confirm our results.

The fact that the vocabulary test was exclusively written is another limitation of the study. For further research, it would be interesting to include oral skills and test the content-related vocabulary learning with oral production and oral comprehension. Some activities in the vocabulary tests we used should be revised in order to avoid activities which are too complex for students and replace them by activities which seem to be more suitable for measuring the learning of content-related vocabulary. For example, cloze tests both in the production as in the comprehension parts had low scores, whereas picture naming activities showed the highest ones. Therefore, this issue should also be studied in the future in order to confirm the validity of the test.

As mentioned in the literature review, motivation is not stable and changes over time as a result of personal progress as well as multi-level interactions with environmental factors and other individual difference factors. Consequently, one could wonder the extent to which the administration of a questionnaire at a particular point in time can represent the motivational basis of a prolonged dynamic and complex process such as L2 learning. Thus, other research methodological tools such as interviews would be welcomed in order to complement the questionnaire, whereas a longitudinal study would undoubtedly help to shed light on the interpretation of our results concerning both motivation and vocabulary learning.

An interesting line of research could focus on the effect of the school subject taught through CLIL. Can the CLIL approach be as effective in P.E. as in Sciences? In other words, subject matter could be a factor interacting with others (such as gender) in CLIL learning contexts from a motivational point of view. More research within Dörnyei's "L2 Motivational Self System" in CLIL programmes is also needed.

Meanwhile, it could be of interest to the different institutions involved in promoting CLIL to take into account our research findings. CLIL, once again, seems to have a positive effect on the learning of content-related vocabulary, which implies language learning and learning of the content, too. Nevertheless, affective factors such as motivation and self-esteem which are considered to be essential to the process of learning seem not to have been as positively influenced as expected, but this may be due to the fact that students were not selected before entering the programme. More studies which control for this factor should be carried out. However, FLL seems to be strengthened by the CLIL approach and this could help us to improve the learning of FLs within the educational system, guaranteeing equal opportunities for all the students, whichever their socioeconomic background and gender might be, with a view to reaching the aim of MT(s)+2 following European recommendations. It is a truism to say that the educational system has to play a paramount role in helping to pave the way for successful FLL.

9. PEDAGOGICAL IMPLICATIONS

As we mentioned earlier in this dissertation, on the one hand, FLL and EFL have traditionally shown unsatisfactory results in many formal educational settings worldwide and the results seem to be even worse for males (Burstall, 1975) who are more likely to drop FLL (Clark and Trafford, 1995; Carr and Pauwels, 2006). On the other hand, in our globalised world, English is increasingly regarded as a "prerequisite for individual success" (Coyle, Hood and Marsh, 2010: 9). We obviously need to find

ways to teach and learn foreign languages effectively within the educational system and, in a limited time. If the results of our study were confirmed, the subject in CLIL might also play a role in motivation and consequently, in achievement levels. In general, the implementation of CLIL in subjects traditionally enjoyed by male students could become a very effective course of action to improve males' traditional lack of motivation towards FLL.

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APPENDIX A

CLIL programmes in Navarre in 2010-2011: Schools, grades and number of students.

	Centro	LOCALIDAD	1º	AL	2º	AL	3ō	AL	4º	AL
1	IES Toki Ona	BERA	1	14	1	30	1	25	1	26
2	IES Ibaialde	BURLADA	1	19	1	14	1	19	1	22
3	IES Alhama	CORELLA	1	20	1	20	-	-	-	-
4	IES Pablo Sarasate	LODOSA	1	9	1	10	1	18	1	17
5	IES Marqués de Villena	MARCILLA	1	23	1	23	1	18	-	-
6	IES Basoko	PAMPLONA	1	24	1	18	1	18	-	-
7	IES Eunate	PAMPLONA	1	25	1	19	1	18	1	13
8	IES Navarro Villoslada	PAMPLONA	2	50	2	50	-	-	-	-
9	IES Padre Moret-Irubide	PAMPLONA	1	19	1	19	1	10		
10	IES Plaza de la Cruz	PAMPLONA	2	39	1	29	1	25	1	25
11	IES Ribera del Arga	PERALTA	1	23	1	21	-	-	-	-
12	IES Ega	SAN ADRIÁN	1	24	1	25	1	25	1	24
13	IES Benjamín deTudela	TUDELA	2	50	2	49	1	26	1	25
14	IES Valle del Ebro	TUDELA	2	36	1	30	1	30	1	24
15	IES Zizur	ZIZUR	2	50	2	50	-	-	-	-
!	TOTALES:	2010/11:	20	425	18	407	11	232	8	176

Table 20: CLIL programmes in Navarre in 2010-2011: Schools, grades and number of students.

ZB:	

APPENDIX B (CLIL Questionnaire)

Informazio orokorra

Lehenik eta behin zure parte hartzea eskertu nahi dizugu.Informazio honek, hizkuntzen ikaskuntza eta irakaskuntza aztertzeko balioko du.

Eman behar dituzun datuak eta erantzunak konfidentzialak izanen dira. Zure izena ez da inoiz agertuko kodifikatutako zenbaki bat baizik.

Hemen, ez dago erantzun egoki bakarra. Benetan bakoitzaren esperientzi pertsonalean oinarritzen den erantzuna balio duena da.

Berriz ere, eskerrik asko zure esfortzua eta denbora emateagatik.

I. DATUAK

(Jarri X erantzun egokia aukeratzeko)

JAOITZE EGUNA			
JAOITZE HILABETEA			
AMAREN IZENA			
SEXUA	NESKA	MUTILA	
HEZK. EREDUA (D edo B)	О	В	
Atal Elebidunak ingelesez	BAI	EZ	
Hizkuntza Eskola Ingelesez	BAI	EZ	

II. HIZKUNTZAK

(Jarri X erantzun egokia aukeratzeko)

Zenbat urteekin hasi zinen ingelesa ikasten?		
Eskolatik kanpo, ingeleseko klaseak hartzen al dituzu?	BAI	Baietz erantzun baduzu: Noiz hasi zinen?
	EZ	Astean zenbat ordu?
Eskolatik kanpo, ingelesa praktikatzeko	BAI	Baietz erantzun baduzu: Noiz joan zinen?
hemengo udalekuetan edo atzerrian egon al zara noizbait?	EZ	Zenbat denbora pasatu zenuen?
Etxean, zein hizkuntzatan aritzen zara?		
Lagunekin, zein hizkuntzatan aritzen zara?		

INGELESA IKASTEAREKIKO JARRERAK ETA MOTIBAZIOA	ERABAT ADOS	ADOS	EZ ADOS EZ DESADOS	DESADOS	ERABAT DESADOS
1. Ingelesa ikastea garrantzitsua da.					
2. Ingelesa ikastea garrantzitsua da ingelesa ikasgaia gainditzeko .					
3. Ingelesa ikastea garrantzitsua da ingelesa ikasgaian notak onak ateratzeko.					
4. Niretzat ingelesa ikasteak garrantzi handia du ingelesezko pop, rock eta					
abarreko musika motak errazago ulertzeko.					
5. Niretzat ingelesa ikastea garrantzi handia du internet-en gauzak errazago					
aurkitzen ditudalako.					
6. Niretzat ingelesa ikastea garrantzi handia du bideo-jokoen instrukzioak					
errazago ulertzen ditudalako.					
7. Ingelesez solasteko kapaza izatea garrantzi gutxi izango du heldua					
naizenean lan on bat lortu ahal izateko.					
8. Ingelesez solastea primeran dago.					
9. Ingelesa jariotasunez (erraz) solasten duen jendea miresten dut.					
10. Nire burua ikus dezaket zenbait ikasgai ingelesez ematen diren					
unibertsitate batean ikasten.					
11.Lanean ingelesa erabiltzen nire burua ikus dezaket.					
12.Bidaiatzen ingelesa erabiltzen nire burua ikus dezaket.					
13. Atzerrian bizitzen eta Ingelesa solasten ikus dezaket nire burua.					
14. Etorkizunean, ingelesa jariotasunez (erraz) solasten ikus dezaket nire					
burua					
15. Ingelesa ikasten dut nire lagun minei garrantzitsua dela iruditzen zaielako.					
16.Nire familia pozik egon dadin ingelesa ikasi behar dut.					
17. Nire irakasleen onarpena izateko ingelesa ikastea garrantzi txikia du.					
18. Ingelesa ongi menperatzen badut, jendeak gehiago errespetatuko nau.					,

INGELESA IKASTEAREKIKO JARRERAK ETA MOTIBAZIOA	ERABAT ADOS	ADOS	EZ ADOS EZ DESADOS	DESADOS	ERABAT DESADOS
INGELESEKO IRAKASGAIARI DAGOKIONEZ,					
19. Ingelesa hitz egiten dudanean, urduri sentitzen naiz.					
20. Ingeleseko irakasgaia gustatzen zait.					
21. Ingelesez nire ikaskideak bezain ongi solasten naizela uste dut.					
22. Klaseak nire irakurmena eta idazmena hobetzen laguntzen nautela uste					
dut.					
23. Ingeleseko klaseetan aunitz saiatzen naiz.					
24. Klaseek nire mintzamena eta entzumena hobetzen laguntzen didatela					
uste dut.					
25. Ingelesa hitz egiten dudanean, nire buruarekin ziur sentitzen naiz.					
GORPUTZ HEZIKETA IRAKASGAIARI DAGOKIONEZ,					
26. Ingeleseko entzumena eta mintzamena hobetzen laguntzen didala uste					
dut.					
27. Ingelesa hitz egiten dudanean, urduri sentitzen naiz.					
28. Ingelesez solasten saiatzen naiz.					
29. Gorputz Heziketa irakasgaia gustatzen zait.					
30. Gorputz Heziketa irakasgaia ingelesez gustukoa dut.					
31. Ingeleseko irakurmena eta idazmena hobetzen laguntzen didala uste dut.					
32. Ingelesez nire ikaskideak bezain ongi solasten naizela uste dut.					
33. Ingelesa hitz egiten dudanean, nire buruarekin ziur sentitzen naiz.					

Oraingoan eta bukatzeko, azaldu irakasgai hauekiko dituzun sentimenduak
1. Ingelesa irakasgaian,
sentitzen naiz.
2. Gorputz Heziketan ingelesez,
sentitzen naiz.

Eskerrik asko! Thank you!

ZB:	

(Non-CLIL Questionnaire)

Informazio orokorra

Lehenik eta behin zure parte hartzea eskertu nahi dizugu.Informazio honek, hizkuntzen ikaskuntza eta irakaskuntza aztertzeko balioko du.

Eman behar dituzun datuak eta erantzunak konfidentzialak izanen dira. Zure izena ez da inoiz agertuko kodifikatutako zenbaki bat baizik.

Hemen, ez dago erantzun egoki bakarra. Benetan bakoitzaren esperientzi pertsonalean oinarritzen den erantzuna balio duena da.

Berriz ere, eskerrik asko zure esfortzua eta denbora emateagatik.

I. DATUAK

(Jarri X erantzun egokia aukeratzeko)

JAOITZE EGUNA			
JAOITZE HILABETEA			
AMAREN IZENA			
SEXUA	NESKA	MUTILA	
HEZK. EREDUA (D edo B)	О	В	
Atal Elebidunak ingelesez	BAI	EZ	
Hizkuntza Eskola Ingelesez	BAI	EZ	

II. HIZKUNTZAK

(Jarri X erantzun egokia aukeratzeko)

Zenbat urteekin hasi zinen ingelesa ikasten?		
Eskolatik kanpo, ingeleseko klaseak hartzen al dituzu?	BAI	Baietz erantzun baduzu: Noiz hasi zinen?
	EZ	Astean zenbat ordu?
Eskolatik kanpo, ingelesa praktikatzeko	BAI	Baietz erantzun baduzu: Noiz joan zinen?
hemengo udalekuetan edo atzerrian egon al zara noizbait?	EZ	Zenbat denbora pasatu zenuen?
Etxean, zein		
hizkuntzatan aritzen zara?		
Lagunekin, zein hizkuntzatan		
aritzen zara?		

INGELESA IKASTEAREKIKO JARRERAK ETA MOTIBAZIOA	ERABAT ADOS	ADOS	EZ ADOS EZ DESADOS	DESADOS
Ingelesa ikastea garrantzitsua da.	ADO3		LZ DESADOS	
Ingelesa ikastea garrantzitsua da ingelesa ikasgaia gainditzeko .				
3. Ingelesa ikastea garrantzitsua da ingelesa ikasgaian notak onak ateratzeko.				
4. Niretzat ingelesa ikasteak garrantzi handia du ingelesezko pop, rock eta abarreko				
musika motak errazago ulertzeko.				
5. Niretzat ingelesa ikastea garrantzi handia du internet-en gauzak errazago aurkitzen				
ditudalako.				
6. Niretzat ingelesa ikastea garrantzi handia du bideo-jokoen instrukzioak errazago				
ulertzen ditudalako.				
7. Ingelesez solasteko kapaza izatea garrantzi gutxi izango du heldua naizenean lan on				
bat lortu ahal izateko.				
8. Ingelesez solastea primeran dago.				
9. Ingelesa jariotasunez (erraz) solasten duen jendea miresten dut.				
10. Nire burua ikus dezaket zenbait ikasgai ingelesez ematen diren unibertsitate batean				
ikasten.				
11.Lanean ingelesa erabiltzen nire burua ikus dezaket.				
12.Bidaiatzen ingelesa erabiltzen nire burua ikus dezaket.				
13. Atzerrian bizitzen eta Ingelesa solasten ikus dezaket nire burua.				
14. Etorkizunean, ingelesa jariotasunez (erraz) solasten ikus dezaket nire burua				
15. Ingelesa ikasten dut nire lagun minei garrantzitsua dela iruditzen zaielako.				
16.Nire familia pozik egon dadin ingelesa ikasi behar dut.				
17. Nire irakasleen onarpena izateko ingelesa ikastea garrantzi txikia du.				
18. Ingelesa ongi menperatzen badut, jendeak gehiago errespetatuko nau.				

Jarri X erantzun egokia aukeratzeko.

INGELESEKO IRAKASGAIARI DAGOKIONEZ,			
19. Ingelesa hitz egiten dudanean, urduri sentitzen naiz.			
20. Ingeleseko irakasgaia gustatzen zait.			
21. Ingelesez nire ikaskideak bezain ongi solasten naizela uste dut.			
22. Klaseak nire irakurmena eta idazmena hobetzen laguntzen nautela uste			
dut.			
23. Ingeleseko klaseetan aunitz saiatzen naiz.			
24. Klaseek nire mintzamena eta entzumena hobetzen laguntzen didatela			
uste dut.			
25. Ingelesa hitz egiten dudanean, nire buruarekin ziur sentitzen naiz.			

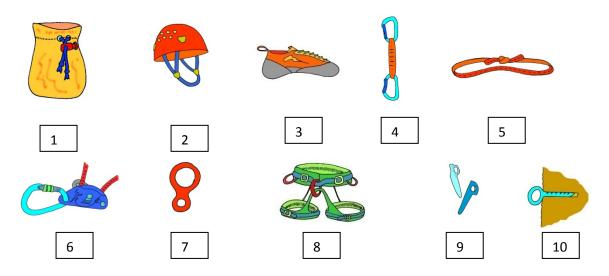
Oraingoan eta bukatzeko, azaldu irakasgai honekiko dituzun sentimenduak
1. Ingelesa irakasgaian,
contitzon naiz
Seriutzen natz.
sentitzen naiz.

Eskerrik asko! Thank you!

APPENDIX C (Pre-test)

JAOITZE EGUNA:	AMAREN IZENA:
JAOITZE HILABETEA:	SEXUA: NESKA MUTILA

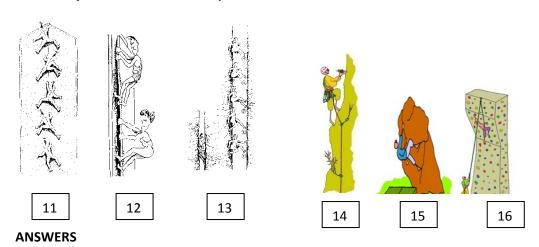
A. Can you name these objects? Look at the example. *Izendatu objektu hauek, adibidean bezala.*



ANSWERS

1	Chalk purse/bag	6	
2		7	
3		8	
4		9	
5		10	

B. Can you name these techniques? *Izendatu teknika hauek* .



11	14	
12	15	
13	16	

C. Fill in the gaps with a suitable word, as in the example.

Osatu hutsuneak hitz egokiarekin, adibidean bezala.

(18) CLIMBING
This is the (19) way to climb.
The rope goes through a (20) at the top of the wall. The climber (21) himself to one end of the rope and the (22) holds the other end. If the climber falls the rope will (23) and the climber will be suspended.
This technique is used for (24) climbing.

ANSWERS
ANSWERS
18. Top-rope
19.
20.
21.
22.
23.
24.

D. Fill in the gaps with a suitable word.

Osatu hutsuneak hitz egokiekin.

ANSWERS

25. Lead

25.

26.

27.

28.

JAO	ITZE EGUN	A:			A	MA	REN IZE	NA:			
JAO	ITZE HILAB	ETEA:			S	EXU	A: NES	KA		MUTILA	
	A. Match t korapilo ho							ok at th	ne e	xample:	
Eigh	nt loop	The fisher	man's k	not	ľ	Macl	nard				
Clov	ve hitch	Double fi	gure		٧	Vate	r knot				
%	1		S		2			3			
								Ğ	(_		
	4			5					6		
ANSV	WERS										
1	Hitches/tl	ne eight loc	р		4						
2					5						
3					6						

B. Match the words in English with their definition as in the example .

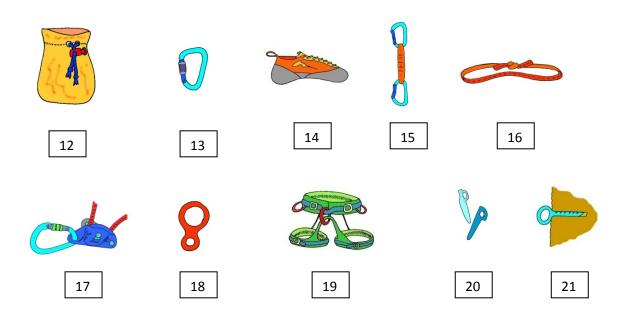
Lotu Ingelesezko hitza euskaraz dagokion hitzarekin, adibidean bezala.

ANSWERS ERANTZUNAK	WORDS HITZAK	DEFINITIONS DEFINIZIOAK
7.a	7. ROPE	a. (A piece of) strong, thick string made of long twisted threads.
8.	8. ABSEIL	c. A piece of soft thick cloth or rubber which is used to protect you when falling down.
9.	9. BRASS NUTS	b.To arrive at a place, especially after spending a long time or a lot of effort.
10.	10. REACH	e. To go down a very steep slope by holding on to a rope which is fastened to the top of the slope.
11.	11. CRASH PAD	d. It is made of solid metal. Its head gets stuck inside the cracks of the wall. It also has a cable connected to the head.

 $Some \ defintions \ have \ been \ taken \ or \ adapted \ from \underline{http://dictionary.cambridge.org/dictionary/british/dilemma}$

C. Chose a word from the box in order to match these objects with their names.Look at the example. Aukera ezazu hitz bat beheko taulatik objektu hauek beraien izenekin lotzeko, adibidean bezala.

Chalk purse	Needle	Lock carabiner	Debonair
Goof	8 ring	Kirk	Nails
Climbing shoe	Pone	Climbing holds	Harness
Climbing decant	Deck	Scepter	Loath
Sling	Gyp	Slush	Corkscrew piton



ANSWERS

12.	Chalk purse	17.	
13.		18.	
14.		19.	
15.		20.	
16.		21.	

D. Chose one word from the box and fill in the gaps with a suitable word, as in the example. Aukera ezazu hitz bat taulatik eta beteitzazu hutsuneak egokiak diren hitzekin.

WORDS							
steering	huff	groups	husting	fixing	grips	deeply	strength
whoosh	rule	attempting	supporting	succession	fusing	bickering	limbs

TIPS FOR CLIMBING:

The three- hold (22)......

We must always have at least three out of four supporting points (Two hands and two feet) on the wall.

Never move two (23)......at the same time.

Feet are important: "We climb with our feet".

Our feet are our **(24)......** points. Try to keep your weight on your feet and not on your hands otherwise you will soon feel tired.

Try keeping your waist close to the wall in order to save (25)...........

Consider - look ahead.

Before (26)..... a pitch, go over it first in your head;

that is to say, work out the movements in (27)......

and the effort required till the next stage.

Hands and feet should then merely carry out movements

which have already been thought out.

Slow movements.

Make slow and controlled movements.

Try breathing (28)..... and staying relaxed

Concentrate.

Keep your head away from the wall.

If we are too close to the wall we won't be able to see the **(29)...........** See, touch and analyse the grip, touch it with our hands and feet.

If you are about to fall, tell your partner and before you fall, push your head off the wall and prepare yourself for the bump.

ANSWERS

- 22. rule
- 23.
- 24.
- 25.
- 26.
- 27.
- 28.
- 29.

Thank you!

Eskerrik asko!

(Post-test: model A)

JAOITZE EGUNA:	AMAREN IZENA:					
JAOITZE HILABETEA:	SEXUA: NESKA		MUTILA			
A. Fill in the gaps with a suitable word, as in the exan Osatu hutsuneak hitz egokiarekin, adibidean bezala.	nples.					
		ANSV	VERS			
		17 h:	alance			
Separate and open both feet, in order to obtain		17.00	alance			
(17) Separate well both feet and fix both soles	on the	18				
wall.		10				
* The hand below is the most important so it must be far	from the	19.				
(18) If it is too close we can accidently hu ourselves, we would release the (19) and the		20.				
consequences would be fatal We must "sit" in the air. Our body straight, our backsid outwards and between our body and legs we should fo (20) as we descend. We will not slip thanks to position.	rm a right					
TIPS FOR CLIMBING:						
The three- hold (21)		ANS	SWERS			
We must always have at least three out of four supporting p	oints	21.	rule			
(Two hands and two feet) on the wall.		22.				
Never move two (22)at the same time.		22.				
Feet are important: "We climb with our feet".		23.				
Our feet are our (23) points. Try to keep your weight o	n your feet					
and not on your hands otherwise you will soon feel tired.		24.				
Try keeping your waist close to the wall in order to save (24)	25.				
Consider – look ahead.						
Before (25) a pitch, go over it first in your head;		26.				
that is to say, work out the movements in (26)		27.				
and the effort required till the next stage. Hands and feet should then merely carry out movements						
which have already been thought out.		28.				
Slow movements.						
Make slow and controlled movements.						
Try breathing (27) and staying relaxed						
Concentrate.						
Keep your head away from the wall.						
f we are too close to the wall we won't be able to see the (2	28) See,	touch a	and analyse the gri			
ouch it with your hands and feet.						
If you are about to fall, tell your partner and before you fall,	push vour head	d off th	e wall and prepare			

yourself for the bump.

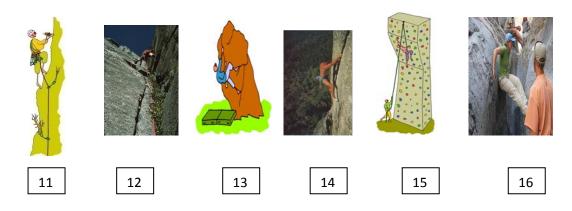
B. Can you name these objects? Look at the example. *Izendatu objektu hauek, adibidean bezala*.



ANSWERS

1	Chalk purse/bag	6	
2		7	
3		8	
4		9	
5		10	

C. Can you name these techniques? Izendatu teknika hauek .



ANSWERS

11	14	
12	15	
13	16	

JAOITZE EGUNA:	AMAREN IZENA:	
JAOITZE HILABETEA:	SEXUA: NESKA MUTILA	

A. Chose a word from the box in order to match these objects with their names.Look at the example. Aukera ezazu hitz bat beheko taulatik objektu hauek beraien izenekin lotzeko, adibidean bezala.

Chalk purse	Needle	Lock carabiner	Debonair
Goof	8 ring	Kirk	Nails
Climbing shoe	Pone	Climbing holds	Harness
Climbing decant	Deck	Scepter	Loath
Sling	Gyp	Slush	Corkscrew piton























20 21

ANSWERS

12.	Chalk purse	17.	
13.		18.	
14.		19.	
15.		20.	
16.		21.	

B. Match the words in English with their definition as in the example . Lotu Ingelesezko hitza euskaraz dagokion hitzarekin, adibidean bezala.

ANSWERS ERANTZUNAK	WORDS HITZAK	DEFINITIONS DEFINIZIOAK
7.a	7. ROPE	a. (A piece of) strong, thick string made of long twisted threads.
8.	8. ABSEIL	c. A piece of soft thick cloth or rubber which is used to protect you when falling down.
9.	9. BRASS NUTS	b. to get to or get as far as in moving, going, traveling, etc.
10.	10. REACH	e. n/vb the act of self belaying down the length of a rope to descend.
11.	11. CRASH PAD	d. It is made of solid metal. Its head gets stuck inside the cracks of the wall. It also has a cable connected to the head.

http://dictionary.cambridge.org/dictionary/british/dilemma/http://www.rockclimbing.com/Articles/Introduction to Climbing/Climbi ng Dictionary 528.html#r/http://dictionary.reference.com

C. Match these knots with their names from the box.Look at the example: Lotu korapilo hauek beraien izenekin, adibidean bezala .

Double figure	Water knot	Clove hitch	
Machard	Eight loop	The fisherman's knot	
No.		MPPR	
1	2	3	
& D	08		
4 SWERS	5	6	

ANS

1	Hitches/ the eight loop	4	
2		5	
3		6	

D. Chose one word from the box and fill in the gaps with a suitable word, as in the example. Aukera ezazu hitz bat taulatik eta beteitzazu hutsuneak egokiak diren hitzekin.

WORDS					
anchor	top-rope	groups	husting	ties	grips
underneath	carabiner	attempting	supporting	succession	lead
rock	whoosh	pitch	steering	route	bickering

(22)		CLIM	BING
------	--	------	------

This is the safest way to climb.

The rope goes through a **(23)**...... at the top of the wall. The climber **(24)**..... himself to one end of the rope and the partner holds the other end. If the climber falls the rope will tighten and the climber will be suspended in mid-air.

This technique is used for (25) climbing.

(26)...... CLIMBING (SETTING THE WAY)

This kind of climbing is more difficult and tiring, so the more experienced climber will lead.

ANSWERS

- 22. Top-rope
- 23.
- 24.
- 25.
- 26.**Lead**
- 27.
- 28.
- 29.
- 30.

Thank you!

Eskerrik asko!

(Post-test: model B)

			(1 031-10	st. model	(B)	
JA	OITZE EG	UNA:			AMAREN IZENA:	
JA	OITZE HIL	ABETEA:			SEXUA: NESKA	MUTILA
A.	Can you bezala.	name these obj	ects?Look at th	e exampl	e. <i>Izendatu objekt</i> u	ı hauek, adibidean
	1	2		3		
			8	OP	4	5
	6	7	8		9	10
ANS	WERS					
1	Chalk n	urse/bag		6		
2	Chance	4136/545		7		
3				8		
4				9		
5				10		
				10		
F. G.	Can you	name these tecl	niaues? Izend	atu teknil	ka hauek	
G.	Can you	i name these teci	iiiiques: izeiiu	utu tekiii	a nauer .	
	11	12	13	14		
_	WERS	14		14	15	16
ANS	VV EN3					
11				14		
12				15		

H. Fill in the gaps with a suitable word, as in the example.

Osatu hutsuneak hitz egokiarekin, adibidean bezala.

(17) CLIMBING
This is the (18) way to climb.
The rope goes through a (19)

ANSWERS	
17. Top-rope	
18.	
19.	
20.	
21.	
22.	
23.	

Fill in the gaps with a suitable word.
 Osatu hutsuneak hitz egokiekin.

7		ANSWERS
,	Separate and open both feet, in order to obtain	24.
(24 wa) Separate well both feet and fix both soles on the	25.
wa		26.
盎	The hand below is the most important so it must be far from the (25) If it is too close we can accidently hurt ourselves, we would release the (26) and the	27.
姿	consequences would be fatal We must "sit" in the air. Our body straight, our backside pushed outwards and between our body and legs we should form a right (27) as we descend. We will not slip thanks to this position.	

JAOITZE EG	UNA:	AMAREN	I IZENA:
JAOITZE HIL	ABETEA:	SEXUA: I	NESKA MUTILA
		with their names from the b k beraien izenekin, adibidea	
	Eight loop	The fisherman's knot	Machard
	Clove hitch	Double figure	Water knot
No.		PPRR	
1		2	3
			O D
4		5	6
NSWERS			
Hitches/ the eig	tht loop	4	

B. Match the words in English with their definition as in the example .

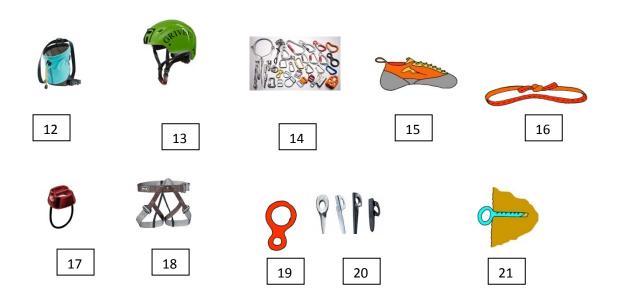
Lotu Ingelesezko hitza euskaraz dagokion hitzarekin, adibidean bezala.

ANSWERS ERANTZUNAK	WORDS HITZAK	DEFINITIONS DEFINIZIOAK
7.a	7. ROPE	a. (A piece of) strong, thick string made of long twisted threads.
8.	8. RAPPEL	c.It is made of rubber or soft thick cloth. It is used to protect you when falling down.
9.	9. BRASS NUT	b. to come to or arrive at, especially after some labor
10.	10. ATTAIN	e. To go down a very steep slope by holding on to a rope wich is fastened to the top of the slope.
11.	11. CRASH PA	d. It is made of solid metal. Its head gets stuck inside the cracks of the wall. It also has a cable connected to the head.

http://dictionary.cambridge.org/dictionary/british/dilemma/http://www.rockclimbing.com/Articles/Introduction to Climbing/Climbing Dictionary 528.html#r/http://dictionary.reference.com

E. Chose a word from the box in order to match these objects with their names.Look at the example. Aukera ezazu hitz bat beheko taulatik objektu hauek beraien izenekin lotzeko, adibidean bezala.

Chalk bag	Scepter	Loath	Climbing decant
Goof	8 ring	Kirk	Nails
Climbing shoe	Pone	Climbing holds	Harness
Debonair	Deck	Lock carabiner	Needle
Gyp	Sling	Corkscrew piton	Slush



ANSWERS

12.	Chalk bag	17.	
13.		18.	
14.		19.	
15.		20.	
16.		21.	

F. Chose one word from the box and fill in the gaps with a suitable word, as in the example. Aukera ezazu hitz bat taulatik eta beteitzazu hutsuneak egokiak diren hitzekin.

WORDS							
steering	huff	groups	husting	fixing	grips	deeply	strength
whoosh	rule	attempting	supporting	succession	fusing	bickering	limbs

TIPS FOR CLIMBING:

The three- hold (22)......

We must always have at least three out of four supporting points (Two hands and two feet) on the wall.

Never move two (23).....at the same time.

Feet are important: "We climb with our feet".

Our feet are our **(24)......** points. Try to keep your weight on your feet and not on your hands otherwise you will soon feel tired.

Try keeping your waist close to the wall in order to save (25)...........

Consider - look ahead.

Before (26)..... a pitch, go over it first in your head;

that is to say, work out the movements in (27)......

and the effort required till the next stage.

Hands and feet should then merely carry out movements

which have already been thought out.

Slow movements.

Make slow and controlled movements.

Try breathing (28)..... and staying relaxed

Concentrate.

Keep your head away from the wall.

If we are too close to the wall we won't be able to see the **(29)............** See, touch and analyse the grip, touch it with your hands and feet.

If you are about to fall, tell your partner and before you fall, push your head off the wall and prepare yourself for the bump.

ANSWERS

- 22. rule
- 23.
- 24.
- 25.
- 26.
- 27.
- 28.
- 29.

Thank you!

Eskerrik asko!

APPENDIX D

Tests of Normality								
	Kolm	Kolmogorov-Smirnov ^a			Shapiro-Wilk			
Statistic			Sig.	Statistic	df	Sig.		
PRETESTOVERALL	,170	25	,059	,932	25	,095		
1POSTTESTOVERALL	,150	25	,151	,950	25	,250		
2POSTTESTOVERALL	,129	25	,200*	,958	25	,370		

Table 21. Test of normality for scores at the three testing times.

Mauchly's Test of Sphericity ^b									
Within Subjects Effect		Measure	Mauchly's W	Approx. Chi- Square	df	Sig.			
encor.	Time	OVERALLTESTS	,808	4,679	2	,096			
		PRODUCTION	,888	2,616	2	,270			
		COMPRHENSION	,827	4,182	2	,124			

Table 22. Mauchly's Test of Sphericity^b for scores at the three testing times.

Test Statistics^b

					SELFESTEEM
	INSTRUMENTA		OUGHTTO L2		PECLILCLASS
	L	IDEALL2SELF	SELF	SELFESTEFL	ROOM
Mann-Whitney U	54,000	67,500	41,500	75,000	66,000
Wilcoxon W	145,000	158,500	119,500	153,000	144,000
Z	-1,754	-,607	-2,225	-,182	-,741
Asymp. Sig. (2-tailed)	,079	,544	,026	,855	,459
Exact Sig. [2*(1-tailed Sig.)]	,205 ^a	,574 ^a	,046 ^a	,894ª	,538 ^a

a. Not corrected for ties.

b. Grouping Variable: GENDER

Table 23. Inferential statistics for the effect of gender in the CLIL group on 5 clusters.

		22. I think		24.I think that	26.I think doing				
		English lessons		English classes	P.E in English				31.I think P.E in
		help me to		help me to	helps me to				English helps
		improve my	23.I do my	improve my oral	improve my oral				me to improve
		written English	best in the	English	English	28. I do			my written
	20.I like	(reading and	English	(speaking and	(speaking and	my best in the		30.I like P.E.	English (reading
	English	writing)	classroom	listening)	listening)	P.E classroom	29.I like P.E	in English	and writing)
Mann-Whitney U	59,000	73,500	60,000	70,000	74,000	57,000	41,000	49,500	43,000
Wilcoxon W	150,000	164,500	138,000	148,000	165,000	148,000	119,000	127,500	121,000
Z	-1,096	-,289	-1,075	-,514	-,229	-1,299	-2,091	-1,698	-2,048
Asymp. Sig. (2-	,273	,772	,282	,607	,819	,194	,037	,089	,041
tailed)									
Exact Sig. [2*(1-	,320ª	,810ª	,347ª	,689ª	,852ª	,270ª	,046ª	,123ª	$,060^{a}$
tailed Sig.)]									

a. Not corrected for ties.

Table 24. Inferential statistics for effect of gender in the CLIL group on independent items.

-	α.		. h
Test	Sta	tist	ics"

			OUGHTTO L2				
	INSTRUMENTAL	IDEALL2SELF	SELF	SELFESTEFL			
Mann-Whitney U	51,000	26,500	40,000	54,000			
Wilcoxon W	117,000	92,500	95,000	109,000			
Z	-,338	-2,082	-1,212	-,075			
Asymp. Sig. (2-tailed)	,736	,037	,226	,940			
Exact Sig. [2*(1-tailed Sig.)]	,809ª	,043ª	,314ª	,973ª			

Table 25. Inferential statistics for effect of gender in the non-CLIL group on 4 clusters

		22. I think English lessons help me to improve my written English (reading and	23.I do my best (speaking English) in the English	24.I think that English classes help me to improve my oral English (speaking and
	20.I like English	writing)	classroom	listening)
Mann-Whitney U	35,000	47,000	37,000	50,000
Wilcoxon W	101,000	113,000	103,000	116,000
Z	-1,490	-,599	-1,348	-,383
Asymp. Sig. (2-tailed)	,136	,549	,178	,701
Exact Sig. [2*(1-tailed Sig.)]	,173ª	,605ª	,223ª	,756°

Table 26. Inferential statistics for effect of gender in the non-CLIL group on independent items.

b. Grouping Variable: GENDER

APPENDIX E (Some students' answers to the open questions of the affective factors questionnaires)

With regard to English as a school subject (conventional EFL):

✓ Student 4 (Female-CLIL):

"Nahiko ongi modaltzen banaiz ere, batzuetan pixkat gaizki eta urduri sentitzen naiz. Bestek hobekiago hitz egiten dutela ikusten dut eta askotan ez naiz ingelesez hitz egitera saiatzen, gaizki egingo dudalaren beldur naizelako".

Although I manage myself quite good, sometimes I feel quite bad and nervous. I see that the others speak better than me and I often don't try to speak English, because I am afraid I'll be wrong.

✓ Student 15 (Male- CLIL)

Ni ez naiz G H bezala sentitzen, nik uste errezagoa dela G H ingeleses ingeleseko clase normal bat baino.

I don't feel the same as in P.E; I think P.E in English is easier than an ordinary English class.

✓ Student 33 (Female-Non-CLIL)

Ez naiz oso zihur sentitzen, batez ere idazlanetan. Bestela gustura sentitzen naiz, eta hizkuntza ikasteko gai sentitzen naiz

28(BOY-Non-CLIL) Ongi eta batzuetan edo gehienetan aspertua

I don't feel very self-confident, especially with my writing. Otherwise I feel fine and I feel able to learn the language.

With regard to P.E in English (CLIL):

✓ Student 3 (Female-CLIL)

Oso gustura sentitzen naiz, nahiz eta G.H ez gustatu,ingelesez izaterakoan desberdina delako edo gustora egoten naiz. Eroso sentitzen naiz. I feel very good, although I don't like P.E, being in English and therefore different I feel fine. I feel confortable.

✓ Student 4 (Female-CLIL)

Gustorago sentitzen naiz. Ez naiz gaizki egitearen beldur eta behar dudan denbora hartzen dut irakasleari esan nahi diodana azaltzeko hitz egokiak bilatzen. Gainera, asko laguntzen didala usted dut, dakidan ingelesa praktikan jartzeko.

I feel good. I'm not afraid of doing it wrong and I take my time to find suitable words to explain to the teacher what I want to say. Moreover, it helps me a lot to practice the English I know.

✓ Student 5 (Male-CLIL)

Entzumena eta mintzamena hobetzeko aukera ona ematen dit. Bizitza errealeko hitzak egoeratan ongi ibiltzen laguntzen dit. It gives me the chance to improve my listening and speaking. It helps me to practice language in real context.

✓ Student 16 (Male-CLIL)

Lasaitasun gehiagorekin hitz egiten dut.

I speak more calmly.

		CONVENTIONAL EFL SETTING		P.E CLIL		
		-	+	-	+	
C L I L	GIRLS	Sobera exigitu/ Too demanding Aspertuta (lllll)/ Bored Urduri (III)/ Nervous Okerrago/ Worse Gaizki egingo dudalaren kezka / Worried about not doing well Erreza egiten zait/ Easy to me Nekatuta/ Tired Ez naiz gustura sentize/ I don't feel good Lotsa pasatzen dut/ Embarrassed Zaila/ difficult	Gustura eta erraz/ Good and easy Nahiko ongi/ quite good Ongi (ll)/ fine	Hitz egitea zaila/ Speaking is difficult Berdin zait euskaraz edo ingelesez, GH ez zait gustatzen No matter the language (Basque or English), I don't like P.E	Ingelesa praktikatzeko modu oso ona/ A good way of practicing English Egunero Hitz berriak ikasi/ Learning new words everyday Oso gustora (lll)/ very good Gustorago sentizen naiz (llll)/ I feel good Lasai (ll)/ calm Solasteko erreztasuna/ Speaking is easy Lotsarik gabe/not embarrassed Komunikatze beharra/ need to communicate	
	BOYS	ulertu/ I understand less Presio askorekin/ much pressure Pixkat galduta (II)/ a bit lostl Ez zait gustatzen/ I don't like it	Ingelesa ikasteko eta hobetzeko/ To learn and improve English Oso gustura .Maila ona ematen da/ Very good. The level taught is good	Ingeleseko klaseetan baino urduriago/ More nervous than in the English classroom (only 1 student)	Besteek bezala ulertu /Same understanding as the others Ingelesa hobetzeko balio du/ It is useful to improve English Ingelesa errezagoa da G Han/English is easier in P.E Lasaitasun gehiagokin hitz egin/ Speak more calmly Gustura/ Fine Aisa entenditzen da/ It is easy to understand	
N O N	GIRLS	Urduri, ongi ez dakidalako(ll)/ Nervous because I don't know it Urduri, denbora behar dudalako Nervous because I need time Ez oso zihur/ not very confident Aunitz aspertuta (ll)/ very bored Errezegia/ too easy	Interesa jartzen dut/ I show interest Ongi(II)/ good Oso ondo/ very good Gustatzen zait (llI)/ I like it Gustura/ Fine Ikasteko gai / able to learn	There were no questions	There were no questions	
C L I L	BOYS	Aspertuta (lll) / bored Jende aurrean hizt egiterakoan oso urduri/ very nervous when speaking in from of people Gaizki writinean/ bad with my writing	Ongi (ll)/ good Oso ongi (ll)/ very good Nere buruarekin seguro/ self-confident	There were no questions	There were no questions	