

First languages and age in CLIL and non-CLIL contexts

M^a Luz Celaya, Universitat de Barcelona¹ (Spain)

Yolanda Ruiz de Zarobe, Universidad del País Vasco² (Spain)

Abstract

CLIL programmes have experienced rapid growth since 1994, and today are widely implemented throughout Europe. The present study seeks to shed light on the issue of foreign language acquisition, type of exposure and age in school contexts by analysing the influence of the learners' two first languages (Catalan and Spanish, for two groups of learners, and Basque and Spanish, for three groups) in CLIL and non-CLIL programmes in EFL. The results show a link between the type of programme and the production of borrowings. Age (and possibly language typology) is strongly linked to the production of lexical inventions.

Keywords: borrowings, lexical inventions, bilingual community, age

Introduction and review of the literature

The growth of CLIL programmes in Europe (see www.ccn-clil.eu for further information), the increasing number of publications describing CLIL experiences (Maljers, Marsh and Wolff, 2007, and Marsh and Wolff, 2007, as the most comprehensive pictures of European CLIL today) and the testimonies of many proponents of CLIL in schools (see, for instance, González-Davies, 2007) establish it as an important new approach to the teaching of foreign languages. According to Marsh and Nikula (1999), the term CLIL covers both classroom contexts where the foreign language is used as the means of instruction to teach other school subjects, and situations where the teacher uses two languages (even in different proportions) in a given classroom. The most relevant factor for these authors, in either of these cases, is the integration of language and contents so as to enhance language acquisition alongside successful learning of content.

Because CLIL is more recent than previous approaches to bilingual education, systematic analyses along the lines of Dalton-Puffer and Nikula (2006) and Ruiz de Zarobe and Jiménez Catalán (2009), for instance, are still necessary to investigate issues such as vocabulary acquisition, the rate of acquisition, stages of development, syntactic development and L1 influence, to name just a few. The two Spanish communities (Catalonia and the Basque Country) where the present study was conducted have a long tradition in CLIL, although CLIL programmes were officially introduced only recently. Data from learners in these two communities have already been analysed and reported in publications or presented at conferences (see Celaya, 2006a; Celaya, 2006b; Celaya, 2008; Jiménez-Catalán, Ruiz de Zarobe and Cenoz, 2006; Ruiz de Zarobe, 2007; Ruiz de Zarobe, 2008). The theoretical background of the present study is twofold. On the one hand, the focus on lexical transfer, which comes from previous research on written production in "regular" groups (with EFL) in the BAF project (see Muñoz *et al.* 2002 and Muñoz 2006), usually as a part of a more comprehensive set of measures (see Celaya and Torras, 2001; Celaya, Torras and Pérez-Vidal, 2001; Navés, Miralpeix and Celaya, 2005, *et al.*); on the other hand, the focus on CLIL classrooms.

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Generally speaking, studies that focus on transfer conclude that low proficiency learners tend to transfer more elements from their first language than more advanced learners (Poullisse and Bongaerts, 1994), although the opposite finding has also been reported (Sánchez, 2003). A plausible explanation for these controversial findings may be that, as Ringbom (2001) claims, the learner's proficiency in the L2 may affect the type of L1 influence in the activation of words from other languages. In other words, these studies may be measuring different manifestations of transfer that are affected differently by proficiency.

In a different line of research, *borrowings* and *lexical inventions* are considered as communication strategies; most studies show a decrease in their use as learners become more proficient in the L2 (see, for instance, Grañena and Celaya, 2001 for written data and Rossiter, 2005 for oral data). In the analysis of *borrowings* and *lexical inventions* produced by learners from grade 5 to grade 12, Navés *et al.* (2005) show that learners at higher grades use fewer *borrowings* and *lexical inventions*, though the differences are only statistically significant in the case of *borrowings*. Navés, Celaya and Torras (2004) and Celaya (2006b) also found that *borrowings* decreased over time (from 200 hours of instruction to 726 hours) in different groups of regular learners in each study, but that *lexical inventions* increased. Celaya and Torras (2001) found that age might affect the way learners rely on their L1, since the older learners in their study presented a higher use of *lexical inventions* and fewer *borrowings* than younger learners even though the number of hours of instruction was the same for all the groups.

In CLIL contexts, clear benefits have been found for the effect of intensive instruction on oral production in an ESL context (White and Turner, 2005), but studies in foreign language learning contexts are still scarce. Jiménez-Catalán *et al.* (2006) analysed written productive vocabulary by EFL primary school learners and found more lexical richness and sophistication in CLIL learners but did not find a higher number of tokens or types. In the analysis of the overall oral proficiency of a small sample of secondary students, Ruiz de Zarobe (2007) shows that CLIL learners present better results in receptive tasks than in productive tasks; however, as the author argues, the slight difference in the number of hours between the CLIL and non-CLIL groups (210 hours) may not be enough for any effects of CLIL to emerge. Celaya (2006a) claims that the clearest benefit of CLIL is that learners are able to achieve higher levels of proficiency at an earlier age than in "regular" classes. Similarly, in the comparison of CLIL and non-CLIL groups in Catalonia and the Basque Country Ruiz de Zarobe and Celaya (2009) conclude that CLIL has a positive impact on the productive skill of writing in both settings.

Clearly more research is still needed; according to Muñoz (2008: 14), one of the priorities for research in foreign language learning contexts is to "focus on the relative gains of different-age pupils with different types of time distribution". This is precisely the aim of the present study: we describe and compare the production of 5 groups of school learners at different ages (12 and 16 years old) and, consequently, at different grades (Grade 7 = 1ESO and Grade 10 = 4ESO, respectively) in CLIL and non-CLIL classrooms but with similar hours of instruction in the CLIL groups in two bilingual communities in Spain. More specifically, we focus on the influence of the first languages in written production, as evidenced through *borrowings* and *lexical inventions*.

The Study

Participants

The groups were selected from two large studies in the Basque Country and in Catalonia in order to be able to compare the results at different ages but with similar hours of CLIL instruction, on the one hand, and CLIL vs. non-CLIL programmes, on the other. Seventy-five learners took part in the present study. Grade 7 (1ESO), bilingual in Catalan and Spanish, is formed by a group of 22 learners aged 12 (henceforth "CLIL1") attending a semi-private school where a special type of programme was being piloted at the time of data collection, with a total of 1128 hours, and by a group of 20 learners (henceforth "Non-CLIL1") from a state school where English was taught as a foreign language as part of the school curriculum, who had received 416 hours of instruction (see Table 1).

Learners in Grade 10 (4ESO), bilingual in Basque and Spanish and 16 years old, are distributed into 3 different groups: Non-CLIL4, who had received the official number of hours of instruction in EFL (792), and two CLIL groups with a slight difference both in the total number of hours and in the distribution of CLIL classes (henceforth CLIL1/4 and CLIL2/4, respectively). CLIL1/4 had studied one subject through English in Grade 9 and in Grade 10 plus one hour of another subject in Grade 10; CLIL2/4 had started CLIL in Grade 7 in several subjects but with a lower frequency than the previous group (1 hour/week vs. 3/week, see Table 1).

Groups	N	Grade	Age	Hours of instruction
Non-CLIL4	18	10 (4 ESO)	16	792
CLIL1/4	16	10 (4 ESO)	16	1120
CLIL2/4	17	10 (4 ESO)	16	1155
Non-CLIL1	20	7 (1 ESO)	12.9	416
CLIL1	22	7 (1 ESO)	12.9	1128
Total	75			

Table 1. Participants, grade and age and type of instruction

Instrument and procedure

Data were taken from a composition written in both larger projects, although both the time allotted (15 minutes in Catalonia vs. 20 minutes in the Basque country) and the topic ("My life: past, present and future expectations" vs. "Write a letter to a host family") differed. For the purpose of the present study, we do not think that these differences would affect the general findings, as can be seen in the total number of open class words produced (ceiling effect) (see Table 2).

Analysis

The total number of open class words was counted for each of the groups and the number of *borrowings* and of *lexical inventions* was measured against the total number of open class words. Borrowings are L1 words that are not tailored to the target language (see James, 1998) whereas lexical inventions are, according to Dewaele (1998), lexemes which are morpho-phonologically adapted to the target language but do not exist in the target language. Some examples from our data can be seen below³:

Borrowings

- They write all their songs and they *componen* the music too.
- My town is very beautiful and *tranquilo*
- The population is a 12000 *biztanle*
- My mother is *ama de casa*
- In the *passat*, I went to other school

Lexical Inventions

- My sister is a very stupid girl, she is two years older than me and she is *unsuportable*
- We are very happy and we are very *unificate* family
- My brother is studying *informatic enjineery*
- I don't like is *verdurs*
- I tengo two *sistermanastres*
- My mother is *guardia urban*

³ Data have not been edited.

Results and discussion

GROUPS	Total number of open class words	Borrowings and %	Lexical inventions and %
Non-CLIL4	1011	(34) 3.3%	(8) 0.7%
CLIL1/4	911	(4) 0.4%	(19) 1.5%
CLIL2/4	1190	(3) 0.2%	(4) 0.3%
Non-CLIL1	314	(12) 3.8%	(7) 2.2%
CLIL1	1095	(22) 2%	(24) 2.1%

Table 2. Summary of results

As seen in Table 2 above, non-CLIL groups present a higher percentage of *borrowings* than CLIL groups both in the case of Grade 7 (12 years old) and of Grade 10 (16 years old). This means that the type of instruction (and, associated with it, a higher number of hours) has a clear benefit at both age spans in increasing the learners' available vocabulary in the L2 in a written task. This finding is further corroborated if we focus on the two CLIL groups in Grade 10: CLIL2/4, with a slight increase in the number of hours (1155 vs. 1120 in CLIL1/4), also presents a lower decrease in the percentage of *borrowings*, a result that is in agreement with Ruiz de Zarobe (2007) and Poulisse and Bongaerts (1994), as reviewed above. As for the effects of age, an interesting result emerges if we focus on CLIL groups aged 12 and 16. Younger learners aged 12 (CLIL1) present a higher percentage of *borrowings* than older learners at 16 (CLIL1/4 and CLIL2/4), even though the number of hours and the type of programme are the same. As in Celaya and Torras (2001), this might suggest a lesser direct dependency on the L1 as age increases. It goes without saying, though, that this study does not analyse *borrowings* as a communication strategy, a perspective that would lead us to interpret the results in a different way.

The analysis of *lexical inventions* shows that this type of L1 influence still yields controversial results (see studies reviewed above) and therefore deserves further research. By comparing CLIL and non-CLIL in Grade 7, one cannot claim that CLIL might affect the production of *lexical inventions*, since the difference in the percentages is very narrow (2.1% vs. 2.2%). However, when learners are older (age 16, Grade 10) and, consequently, have received more hours, we clearly see that the percentage has decreased; this result runs contrary to the findings of Celaya and Torras (2001), who reported a greater ability on the part of older learners to create vocabulary relying on the rules of both the L1 and the L2. However, it is in line with the findings of Navés *et al.* (2005). The focus on only the CLIL groups at both ages shows the effects of age once more, since younger learners (CLIL1) present a higher percentage of *lexical inventions* even if they have similar hours and programmes as the older learners (CLIL1/4 and CLIL2/4).

However, in our discussion of these results we should highlight an interesting factor in the design of the present study, which may in fact be independent of the issue of age and type of programme. Grade 7 learners (non-CLIL1 and CLIL1) are bilingual in Spanish and Catalan; because their two L1s are so close, they are used to mixing languages in everyday life; this frequent influence between the L1s often gives way to *lexical inventions* involving the two languages. The three groups in Grade 10 are bilingual in Basque and Spanish, which are very distant languages. It might be the case that the frequent use of this strategy by learners in the Catalan context is transferred to the foreign language learning process, whereas learners in the Basque country are more cautious and therefore produce fewer *lexical inventions* than their peers in Catalonia. This possibility cannot be explored with the present design, but might prove relevant for further research in multilingual contexts.

The difference between CLIL and non-CLIL in Grade 10 is striking because although the group with the most number of hours (CLIL2/4) presents the lowest percentage of *lexical inventions*, the other CLIL group (CLIL1/4) produces more *lexical inventions* than the non-CLIL (1.5 vs. 0.7). At first sight, this might mean that an increase in the number of hours in older learners (age 16, in our study) allows them to rely more on the L2 and apply the L2 rules to L1 words, in line with the findings in Navés *et al.* (2004) and Celaya (2006b). However, the fact that a slight increase in the number of hours between the CLIL groups yields a lower percentage than in the non-CLIL group (0.3 vs. 0.7) suggests that the type of programme is not related to L1 influence as reflected in the production of *lexical inventions*; factors such as language typology and age may play a much more powerful role here.

Conclusion

The present study has analysed the relationship of two variables (type of programme and age - school grade) with L1 influence. The two main conclusions that can be drawn are, first, that there seems to be a clear effect of type of programme in the production of *borrowings*, which implies a direct reliance on the L1 and a poor command of L2 vocabulary; CLIL groups in both grades (7 and 10) who are 12 and 16, respectively, produce fewer borrowings than their counterparts in non-CLIL groups. An interesting finding appears in the comparison of CLIL1/4 and CLIL2/4 which differ in the number of hours of instruction received (1120 vs. 1155, respectively); the former group, with slightly fewer hours, produces more borrowings than CLIL2/4. In this case, the confound variables “type of programme” and “hours of instruction” which often appear together in intact classes do not allow us to be so conclusive. This is an issue that deserves further research and can only be analysed through a study with a different design.

Secondly, an influence of age has also been found in our data, with a decrease of *borrowings* as age increases both in the CLIL and non-CLIL groups (12.9 vs. 16 years old). But a more powerful effect of age has been found in the production of *lexical inventions*, which imply a higher reliance on L2 rules and a less direct use of the L1. The fact that Spanish-Catalan bilinguals (non-CLIL1 and CLIL1) present higher percentages of *lexical inventions* has led us to argue for a possible effect of language typology as well. Due to the different type of input and the higher amount of oral input in CLIL as compared to non-CLIL programmes, it would be interesting to also obtain data from oral production to analyse the impact that CLIL might have on the appearance and the type of L1 influence.

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