

A Case Study on Teachers' Insights into Their Students' Language and Cognition Development Through the Andalusian CLIL Programme

MARÍA DEL CARMEN MÉNDEZ GARCÍA
Universidad de Jaén

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ABSTRACT: In Spain the progressive enforcement of CLIL programmes in compulsory education marks an unprecedented turning point in FL teaching, a shift particularly significant in monolingual Autonomous communities such as Andalusia.

On the basis of the results yielded by a case study conducted in one primary and secondary CLIL schools this paper looks into the evidence to support the claim that language and cognition represent two of the major dimensions inherent in CLIL. The data obtained point to perceptible gains in learners' command of CLIL languages and further cognitive development.

Keywords: Foreign Language Teaching (FLT), CLIL (Content and Language Integrated Language), Primary / Secondary Schools, Language, Cognition

Un estudio de casos acerca de las percepciones del profesorado sobre el desarrollo lingüístico y cognitivo del alumnado del programa AICLE de Andalucía

RESUMEN: En España la implantación de programas AICLE en la educación obligatoria constituye un punto de inflexión en la enseñanza de lenguas extranjeras, un cambio especialmente significativo en las Comunidades Autónomas monolingües como Andalucía.

En este artículo se presentan los resultados de un estudio de casos llevado a cabo en un centro bilingüe de primaria y de secundaria con el fin de averiguar si la lengua y la cognición suponen dos de los principales pilares de AICLE. Los datos obtenidos reflejan una serie de logros perceptibles en el alumnado en relación con su dominio de la lengua AICLE así como con su desarrollo cognitivo.

Palabras clave: Enseñanza de lenguas extranjeras, AICLE (Aprendizaje Integrado de Contenidos y Lenguas Extranjeras), Centros de Educación Primaria y Secundaria, Lengua, Cognición

1. INTRODUCTION

In Spain, content and language integrated learning (CLIL) has primarily been implemented with a view to overcoming learners' underachievement in foreign languages and to augmenting their language competences. Indeed, CLIL policies in Spanish monolingual areas such as Andalusia transcends the relevance of learning a particular foreign language (FL); its 'ultimate aim is to engender a radical shift from social monolingualism to multilingualism through education' (Lorenzo, Casal and Moore, 2009:2).

Diverse teaching and learning paradigms have emerged under the umbrella term of CLIL, an approach which, even though welcomed by a considerable part of the academic community, is facing the reluctance and criticism of some sectors. This approach is scrutinised in the following section.

2. CONTENT AND LANGUAGE INTEGRATED LEARNING: THE CASE OF ANDALUSIA

2.1. Features and goals of the Andalusian CLIL programme

The *Plurilingualism Promotion Plan* (2005) – henceforth *The Plan* – establishes guidelines for the application of CLIL in compulsory education (Primary Education, ages 6-11, and Secondary Education, ages 12-16). Table 1 summarises the shape CLIL has taken in Andalusia:

Table 1. Distinctive features of CLIL in Andalusia

Number of disciplines taught through CLIL:	It is customary for schools to teach at least three disciplines.
CLIL groups per grade level:	At least one group is offered.
Languages of the programme:	Spanish – English / French / German
Language use:	Spanish is used in each CLIL subject together with the FL of the programme.
Teaching time allocated to the languages:	Initially, at least 1/3 of each subject is taught in the FL. This percentage may gradually increase.
Teaching model:	Language and content teachers coordinate with language assistants, with whom content teachers co-teach.

The Plan (2005) maintains that the three main pillars of CLIL programmes are improvement in language, culture and cognition. In CLIL the development of the skills to communicate in the FL go beyond the FL course to make it possible for students to learn the structures and vocabulary needed to internalise the content of other areas through the FL. Therefore, ‘from a language point of view, the aim is to improve skills in both the first and second language and, later, in a third language [...] Pupils are confronted with two different codes, and this induces them to reflect on language [...] make comparisons and perceive the similarities and differences between the two languages’ (*The Plan*, 2005:21). This reflection process is deemed to be essential because it facilitates the mastery of the L1 and the development of metalinguistic awareness.

Cultural awareness becomes a second major goal: 'from a cultural point of view, pupils [...] come into contact with other realities [...] and can soon make comparisons with their own environment, and in this way awaken their interest in other cultures with different beliefs, customs, institutions and techniques' (*The Plan*, 2005:21). For *The Plan* (2005) education in values underlies the implementation of CLIL programmes. Language and content teachers, particularly social science professionals, are urged to include cultural aspects of the/a target country, whereas language assistants are asked to focus on the civilisation, current cultural issues and leisure activities of their country. This cultural dimension is additionally promoted by the face-to-face contact brought about by exchange visits.

Finally, cognition constitutes the third goal: 'from a cognitive point of view, the language teaching / learning process helps pupils to develop great flexibility, which improves their capacity for analysis and observation of the operations used in their own learning processes' (*The Plan*, 2005:21). People make sense of the world and internalise knowledge through language. Cognitively speaking, having access to other cultures means discovering other ways of life and other worldviews. The change of meaning implicit in shifting languages and in studying the new content of the syllabi from different perspectives is assumed to yield attitudes of tolerance towards otherness, a richer worldview and, in general, more effective cognitive processes (*The Plan*, 2005).

The following section explores these and further dimensions of CLIL in a wider context.

2.2. Principles and dimensions of CLIL

CLIL is also called dual-focused education because of its two main goals, 'one related to the subject, topic, or theme, and one linked to the language' (Marsh, 2000:6). The delicate assumption here is that CLIL improves standards in the FL and does not have a negative impact on the learning of the subject content. CLIL is characterised by a flexible approach where the L1 and the FL – both of them also having the status of subjects in the curriculum – co-exist in the content class as languages of instruction. The major difference with traditional FLT is that CLIL is subject-led; it is the content of the subject that determines the language use and, therefore, language is 'one part of the process rather than end to itself' (Deller and Price, 2007:6).

Coyle (1999) distinguishes four elements or building blocks for CLIL: a) content or subject matter; b) communication in the language(s) employed; c) culture as regards global issues or intercultural awareness; d) cognition or thinking processes leading to high quality learning. Similarly, Marsh, Maljers and Hartiala (2001) put forward five dimensions: 1) culture, aiming at intercultural understanding; 2) environment, preparing citizens for internationalisation; 3) language, the development of communicative skills and language awareness in both languages; 4) content; 5) learning.

Regarding language or communicative abilities CLIL learners are attributed a better command of oral registers, although there seems to be a mismatch between productive and receptive-interpretative skills, with more benefits being reported in the latter (Ruiz de Zarobe, 2010). In terms of linguistic outcomes and competence level, students benefit not only in lexico-grammatical competence but also in pragmatic efficiency, probably due to the relevance of meaningful learning and authentic FL use (Lorenzo *et al.*, 2009). Research into

the FL in connection with the L1 indicates that CLIL improves FL command, even though the gains in the L1 are not so conclusive (Lázaro Ibarrola & García Mayo, 2012); the L1 seems to be mainly used to manage tasks, speak about grammar and vocabulary, focus attention and understand meaning (Alegria de la Colina and García Mayo, 2009). CLIL is considered to minimise anxiety, lower learners' affective filter and foment positive attitudes and a feel-good attitude (Lasagabaster & Sierra, 2009). Positive attitudes towards the FL have a direct impact on language learning since they have been found to correlate with high L2 achievement (Lasagabaster & Sierra, 2009); this may account for the fact that weaker pupils seem to benefit the most from CLIL pedagogy (Brevik & Moe, 2010).

From the cultural perspective, CLIL grants access to wider and more complex information (Pavón Vázquez & Rubio, 2010). With its focus on the FL and the culture(s) associated to it, it is liable to enhance learners' knowledge of otherness, their comparative and contrastive skills, and cultural awareness (Méndez García, 2012). It also helps to explore problematic situations and social phenomena, such as migration (Marsh *et al.*, 2001). As a consequence, intercultural attitudes, skills and awareness may be developed through CLIL education (Méndez García, 2012). The aim of CLIL is not 'biculturalism', but familiarization with the cultural patterns of a particular foreign culture, together with those of the first culture, so that individuals identify with both. Dalton-Puffer is categorical in this sense, 'what can be said with certainty, however, is that CLIL will not enculturate the participant students into 'native English speaking classrooms'' (2009), and establishes an explicit link between CLIL and English as an International Language. In this global conception of languages they are no longer exclusively related to the culture(s) of the place(s) where they are spoken. What learners need is to develop intercultural competence so that they are able to fully understand and communicate successfully with the other.

CLIL is cognitively demanding as learners have to make an extra effort to understand the concepts discussed through the FL while they construct language and content knowledge. Knowledge and cognition are the two intimately intertwined constituents of Bloom *et al.*'s taxonomy of educational objectives (1956), revised by Anderson and Krathwohl (2001). In the Revised Bloom's Taxonomy (henceforth RBT) (Anderson & Krathwohl, 2001), the knowledge dimension – how individuals construct their knowledge – includes factual, conceptual, procedural and metacognitive knowledge. The cognitive dimension contains six process categories (Anderson & Krathwohl, 2001; Krathwohl, 2002) – remember, understand, apply, analyse, evaluate and create – which form a hierarchical paradigm ranging from lower order thinking skills (i.e., remember) to higher order thinking skills (i.e., create). CLIL presents the potential of promoting both, the knowledge and the cognitive process dimensions.

CLIL may stimulate cognitive content engagement, which leads to learning in general and which allows for new information to be related to prior knowledge (Kong and Hoare, 2011). The relationship between CLIL and constructivism has widely been discussed. Constructivism is based on the premise that individuals' new learning derives from their mental activity and that the new learning is built on previous experiences, knowledge, abilities, attitudes and interests (Ávila López, 2009). CLIL may yield some kind of cognitive conflict between the old and the new information as a result of individuals' internal contradictions or as a result of coming across contrasting points of view from other people (Casal Madinabeitia, 2007). This diversity of input received enhances cognitive development and paves the way to high-level thinking (Lasagabaster and Sierra, 2009).

In short, CLIL has the potential to lead to a change of perspective and a change of view (Ávila López, 2009) broadening learners' horizons. However, this point of view is one which is present above all in the academic literature, in the evaluation and other reports that have appeared in recent years. It is equally important to know whether teachers involved in CLIL share these perceptions.

3. THE STUDY

3.1. Statement of purpose and research questions

The goal of this paper is to gain an insight into teachers' perceptions of the effects that Andalusian CLIL programmes are having on learners' global education. Two research questions have been formulated with the aim of looking into two of the three pillars of CLIL as stated in *The Plan* (2005):

1. What evidence is there to suggest that CLIL enhances learners' language and communicative development?
2. How does the CLIL programme affect students' cognition?

The first question dwells on learners' gains in language and communicative competence. It revolves around these subquestions:

1. What role does the L1 play in CLIL programmes?
2. How is learners' development of the FL affected by CLIL?
3. Does CLIL produce further perceptible language-related gains?

The second research question centres on the cognitive profile of CLIL students in the following areas:

1. To what extent do data indicate that CLIL learners exhibit lower order thinking cognitive processes?
2. To what extent do CLIL students develop the more demanding cognitive processes of 'apply' and 'analyse'?
3. To what extent do CLIL learners achieve higher order thinking cognitive processes?

3.2. Context and description of participants

The decision about which schools should be invited to participate in this study was based on seniority in the programme. Jaén was the last Andalusian province to put into practice CLIL piloting schools. The primary and secondary piloting institutions started offering a Spanish-French programme in 2002-2003 and have been guiding the subsequent introduction of CLIL education into other schools. Before proceeding to the research phase, the author

considered that the research would benefit from piloting in a different but similar school. The first French-Spanish school in the city of Jaén to implement the CLIL programme after the publication of *The Plan* (2005) was selected.

Fifteen primary and secondary school teachers (4 language assistants, 4 language teachers and 7 content teachers) of all the Departments involved in CLIL tuition in the schools were interviewed individually with the exception of T3, T4 and T6, who explicitly acknowledged a preference for pair interviews to endorse their experience and opinions with a more dialogic and consensus-oriented perspective. The professionals surveyed are detailed below:

- Primary School in Jaén:
 - T1¹. Language assistant of French (female, F)

Schools in the province of Jaén:

- Primary:
 - T3. Two language assistants of French (F)
 - T4. Two content teachers of Music (F) and P.E. (male, M)
 - T5. Content teacher of Science (F)
 - T6. Two language teachers of French (F and M)
- Secondary:
 - T2. Language assistant of French (F)
 - T7. Language teacher of French (F)
 - T8. Language teacher of French (F)
 - T9. Content teacher of Geography and History (M)
 - T10. Content teacher of Economy (F)
 - T11. Content teacher of Music (F)
 - T12. Content teacher of Physics and Chemistry (M)

3.3. Research instruments, data collection, research process and data analysis

Interviews were chosen because they constitute a productive qualitative research instrument to examine a limited number of cases in-depth (Mackey & Gass, 2005). Interviews help look into non-observable phenomena such as viewpoints from an emic or insider's perspective (Johnson & Onwuegbuzie, 2004). Teachers' beliefs have been shown to be a determinant factor in their teaching (Tan, 2011) and, for this reason, research into teachers' perceptions concerning their practices and views on CLIL was considered to be paramount at this stage of implementation of the programme.

Semi-structured interviews were used. All interviews were conducted in Spanish and in the teachers' institutions between 2007-2008 and 2009-2010. They were recorded and then transcribed in their unabridged version by the researcher (the quotes below are translations from the original interviews). Semi-structured interviews provide enough cues to guide the conversation whilst they simultaneously allow informants to digress from the prompts and expand on the pieces of information of their choice. The researcher elaborated a set of questions drawing on the literature, attendance at conferences and seminars for teachers

¹ T stands for 'teacher'; 'T' is followed by the interview number.

participating in CLIL programmes in Andalusia, and pre-research informal conversations with them. Prior to carrying out the interviews, an invitation letter was sent to their schools with information concerning the research process. As the researcher had previously met most of the teachers, who had agreed to be interviewed, the set of questions was also enclosed. Some key questions guided the structure of the interview without delimiting its breadth or depth as respondents were explicitly told to depart from the cues and focus on the aspects they considered more revealing. The interviews included the following issues, even though aspects related to additional and relevant factors emerged in the course of the conversations:

1. teachers' professional profile
2. effect of CLIL teaching on teachers' professional identity
3. parents' involvement / family environment
4. goals of the programme
5. CLIL contents and methodology
6. teachers' perceptions of the effect of CLIL programmes on learners.

The data reported on in this paper were largely yielded by the conversations about the last three points.

Data analysis involved coding of the transcripts by means of keywords. For 4.1., language and communication, data were further processed until relevant categories or emergent themes were disclosed and labelled, and instances of agreement and differences among the answers were discovered. This analysis of data without pre-established categories is the inductive approach of grounded theory or constant comparison (Mackey & Gass, 2005), a constant dialogue with data until emergent themes are unveiled. For 4.2., cognition, Anderson and Krathwohl's (2001) cognitive process categories, the most widely known paradigm in the area of cognition, were used as a framework for data analysis.

4. PRESENTATION OF FINDINGS AND DISCUSSION

The next sections address the research questions. The first one analyses the extent to which CLIL reinforces language and communication skills, whereas the final part explores cognitive gains.

4.1. Language and communication

Figure 1 illustrates the major themes.



Figure 1. The emergent theme of language and communication

The mother tongue

Teachers, especially language assistants (LAs), are aware that CLIL methodology does not ban learners' L1 from the classroom. The L1 occupies a relevant position and is used especially in classes with younger learners or when there are difficulties in understanding (see T2 below). Facilitators appreciate the confidence the L1 confers on learners and its significance when it comes to anchoring knowledge. This is why the CLIL methodology selected combines the two languages, what T4 terms 'the dual method'. The L1 is basically employed for presenting content, whereas the FL plays a major role in its revision and consolidation. Interviewees tend to follow this pattern, although T4 and T6 indicate that, uncommonly, the FL may be employed to introduce the content:

I also use Spanish, when I see that they do not understand anything, when they are completely lost. (T2)

We have opted for the dual method. We aim at teaching the concept to be transmitted first in Spanish, and then the contribution is made in French. (T4)

Sometimes the content that needs to be introduced in the lesson is expounded in French. (T6)

Teachers are positive that both languages work in tandem, even though they do not necessarily serve the same purposes or take the same talking time. As T4 comments, there is nothing learnt only in French, an opinion shared by all interviewees. However, in some instances Spanish may be employed as the unique language to explore some didactic units. T11 gives an interesting example of how this L1 preponderance may be compensated with tasks conducted in the FL:

There is nothing learnt only in French, perhaps there are some aspects learnt just in Spanish. (T4)

I may study a unit in Spanish and then I may think about doing related tasks in French. (T11)

In brief, the data obtained displays that the L1 plays a fundamental role.

The foreign language

The language of the programme occupies a relevant position in everyday life at school. Teachers concur that learners are more proficient in the FL than they think, and that students find it easy to learn in the FL and to commit words to long-term memory:

They are so good at learning, mainly the little ones. You tell them something once and they already know it. (T3)

One of the strong points of the programme is its focus on oral language and communicative methodology (T4). Spanish FLT has traditionally been more focused on grammar, vocabulary, and reading and writing skills. T2 defends the natural use of the language, classroom French being just one example:

Oral language. We attempt to make the lesson as communicative as possible. (T4)

I encourage them to speak in French. For example, they should also ask me to repeat in French. (T2)

Employing French for the classroom routine seems to be an asset. The second key factor turns out to be the enjoyable nature of some of the tasks learners get involved in and which leads to unconscious learning (T2). Professionals acknowledge having partially changed their way of teaching and are fully aware of it. There is a new variety of resources and tasks because the extensive use of oral French needs to be accompanied with more visual techniques and material so that understanding is ensured. In this respect, respondents comment:

Kids do not realize that they are learning French because they are playing. (T2)

I often try to work with images, comics. When we work with images they learn the word without realizing. (T2)

Children learn French singing, imitating, using set phrases, poetry, gestures, dramatization, role playing. (T6)

When you are teaching in French you perhaps do it more visually. (T5)

A third element is the content subjects or non-linguistic subjects (NLSs) taught via French. Whereas LAs endow the programme with everyday French, NLSs offer learners the academic variety of the language. Interestingly, LAs (T3) believe that not all content disciplines are equally valuable. They deem that Geography and History facilitate the background to understand historical events and to help learners succeed in everyday conversation. On the contrary, the jargon of the Sciences (Primary Education) and Physics and Chemistry (Secondary Education) may not be very helpful for everyday communication, an opinion also supported by the Science content teacher.

Geography and History are very interesting because it is a matter of speaking about historical events, but Physics and Chemistry is very specific, and it is not used in everyday life. In Science there are many topics which are difficult and teaching them in French is 'useless' in inverted commas because it is such specific vocabulary that it is not going to be useful for them. (T3)

The lexicon acquired in the NLSs correlates with the selection of the content subjects of the programme. Indeed, the choice of the NLSs on offer seems to determine the success of other content subjects. Music, Geography and History, Humanities subjects, complement each other. However, Economy (T10) and Physics and Chemistry (T11) would be better exploited if Mathematics had also been a CLIL subject since the discourses of Mathematics and the Sciences are specific and possibly harder to be mastered when taught through a FL. T10 considers that the lack of mathematical-related vocabulary may have an impact on CLIL students who are in a small but perceptibly disadvantageous position compared to non-CLIL groups:

Physics and Chemistry needs other disciplines like Mathematics. If students do not study Maths in the FL this deficit becomes an important handicap [...] The lack of vocabulary in related disciplines affects some parts of the contents, producing a small gap between CLIL and non-CLIL learners. (T12)

In any event, respondents agree that vocabulary is one of the most significant gains. The NLSs equip individuals with specific vocabulary that would not have been obtained otherwise (T11). By the same token, interviewees unanimously report that CLIL learners seem to surpass non-CLIL groups and exhibit a higher command of the language (T8), and this does not seem to have negative impact on the way the contents are learnt:

They master a very wide vocabulary, a vocabulary specific to Music. They learn very specific vocabulary to which they would not have access otherwise. (T11)
I speak more French with CLIL groups because they have more knowledge to follow the class in French (T8).

Language phenomena

The language competences enhanced through CLIL seem to go beyond the boundaries of the L1 and the FL. French is here presented in connection with the varieties of French around the world. T2 explains how languages blend, giving way to plurilingualism:

We listened to a song that mixes French and Senegalese languages and together we discovered that in these countries French is spoken together with other languages and that plurilingualism is a natural phenomenon. (T2)
I have told them that in a part of Canada they speak French, a different variety of French.
The French from Martinique as well. I try to include many varieties of French. (T2)

This rich language environment is not only confined to the CLIL classes but envelops the whole institution. The programme in general and LAs in particular endow staff rooms and the school with an unprecedented European and international atmosphere and aid teachers, whether implicated in CLIL or not, to experience plurilingualism and learn from it. As T6 says:

Little by little we become familiar with English, the English teacher with French, and the rest of the staff with English and French (T6).

Final remarks

This section has shown that there is some evidence that, as formulated in the first research question, CLIL enhances language and communicative abilities.

Data confirm that the L1 occupies a relevant position in the class, mainly when it comes to presenting new content and to anchoring new information, the scaffolding cognitive function that Alegría de la Colina and García Mayo (2009) put forward. In this case study, and in line with their findings, the L1 is similarly employed to make sure that learners understand the meaning and get the message across.

The FL reinforces the content learnt in the L1 and becomes part of learners' everyday school routine. The co-existence of the two languages seems to be the instigator of peda-

gological changes, including compensatory mechanisms (Méndez García and Pavón Vázquez, 2012). Indeed, data indicate that, as Lorenzo *et al.* (2009) discovered, one of the reasons why CLIL learners are reported to have a higher command of the FL is CLIL methodology itself, with the emphasis placed on oral skills, meaningful tasks and authentic FL communication. The variety of resources, tasks and visual support that CLIL teachers have felt the need to incorporate ratify de Graaf's emphasis on task adequacy (2013). Two paramount elements are LAs, with their everyday French, and the NLSs, with their academic use of the language. The results obtained support Lorenzo *et al.*'s (2009) prior findings in Andalusian CLIL schools in that learners' lexical competence is perceptively increased in the FL, particularly although not exclusively in connection with the specific lexicon of content subjects.

A final discovery is that CLIL favours the analysis of languages in a wider perspective, a factor from which not only CLIL students and teachers benefit as the rich language environment seems to be pervading the whole institution.

4.2. Cognition

Figure 2 synthesises the themes discussed in this section which progresses from the RBT cognitive process categories of lower order thinking skills (remember and understand), through 'apply and analyse', to higher order thinking skills (evaluate and create) (Anderson & Krathwohl, 2001):



Figure 2. The theme of cognition

Remember and understand

CLIL groups are said to exhibit broader knowledge of language and culture. Learners **remember**² (first cognitive process category) or 'retrieve relevant knowledge from long-term memory' (Anderson & Krathwohl, 2001:67), not only by *recognizing* or identifying the aspects of French culture explored in the class but also by *recalling* or retrieving this knowledge and applying it to their everyday life. As T6 puts it:

Learners are updated on everything: they recognise pictures taken from France or tell us whether there is something about France on the news. (T6)

A further indicator of the existence of comprehensive learning is that by combining two languages knowledge is likely to be more meaningful, facilitating the construction

² Cognitive process categories appear in italics and bold type; their subcategories are written in italics.

of meaning or *understand* (the second category). The entwined use of the two languages may help contemplate related but different issues. These factors contribute to *interpreting* knowledge, a first step leading to understand. T6 affirms that the coexistence of the two languages seems to yield a more sound interpretation of the contents:

It is not a repetition of the same aspects. Learners think about this content from two similar but different views, with two different codes. And this will probably mean that they learn all these contents better. (T6)

Exemplifying, the second process within understand, emerges as an inherent feature of CLIL. Teachers bring the target culture(s) to life and provide examples of cultural aspects. The pictures of the assistants' hometown or the maps they show constitute valuable material to be exploited in Sciences or the selection of contemporary songs help analyse complex sociological phenomena such as the 'Cité' effect in Music (T2). This way of transmitting life in the target community awakes the curiosity of learners' (T6), who ask for further samples endorsing, subsequently, the value of exemplifying:

In Music we have studied the song of a Moroccan immigrant woman, which is very well-known in France, a hit. I explained the 'Cité' effect, ghettos in French cities. The song speaks about suffering, mistreatment, men's control over women, etc. (T2)

Learners ask the language assistant many questions about France, anything, and they ask her to bring posters, typical things, films, etc. from France. (T6)

A further indicator pointing to substantial learning is *summarising*. CLIL learners are reported to be able to effortlessly summarise the main contents of NLSs. It seems that learning content through two linguistic codes (T6) helps commit knowledge to long-term memory:

Studying it in two languages reinforces the content; both languages complement each other. Revising and summarising all the contents of Music, kids were able to remember things in Spanish and French. We realized that French helps them learn things in Spanish as well. (T6)

The reflection on French culture stimulates *inferring* as learners strive to search for the ultimate reason underlying cultural practices. T2 promotes inferring when dealing with everyday routine by making individuals ponder the reasons why timetables differ in France and Spain. Additionally, in the absence of translation for some concepts into another language, such as the above mentioned 'Cité' effect, learners are able to see that languages may be limited tools of communication (T2):

Timetables in Spain have to be understood in the light of the heat. (T2)

They understand better the meaning of some concepts in French that cannot be translated into Spanish. They realise that their language, like French, is limited in some aspects. (T2)

One of the most evident benefits of the co-existence of two languages is *comparison* which, together with explaining, constitute the most complex cognitive processes within

understand. T6 hints at language similarities rather than differences as particularly motivational factors. A possible by-product of this language awareness based on the comparison and contrast of languages is that the whole process assists students in analysing not only the FL(s) but also their L1 (T1), a greater reflection on languages and their cultural patterns which boosts the search for correspondences and divergences:

They compare the two languages. Children show a great interest when a French word is similar to another word in their L1. When students see that a word also coincides in English they note this similarity and compare French, English and Spanish. (T6)

It helps them think in their own language. (T1)

Teachers observe wider cultural knowledge in CLIL groups due to their constant access, through different agents and subjects, to a broader outlook of France and French speaking countries. This access to diverse facets of the foreign culture seems to permeate learners' cognitive framework, endowing them with a rich network of cultural elements and associations. Accordingly, CLIL learners are able to *explain* cultural issues and the 'cause-and-effect' patterns among them (Anderson & Krathwohl, 2001:67):

When they analyse a text they are aware of particular connotations. CLIL groups always know something more than non-CLIL groups. When we studied literature they knew that 'La Chanson de Roland' is medieval and that it took place in Roncevaux. (T7)

To conclude, data suggest that CLIL is making a noticeable contribution to instigating the lower order cognitive processes of remember and understand in their different shapes and shades.

Apply and analyse

CLIL is considered to favour *apply* or putting into practice a procedure in a given situation. Secondary school CLIL learners and teachers take part in an exchange programme. The school exchange becomes a major source of both motivation and cultural knowledge. The linguistic and cultural aspects learnt usually fall within the realm of students' interests and the everyday aspects they experience, giving rise to action-taking on the part of their teachers so that explicit cultural issues are tackled prior, during or after the exchange. CLIL students appear to excel at *implementing*, applying a procedure to an unfamiliar task and environment, which may likewise foster procedural knowledge (T8):

They come into contact with French learners, they go to France. This is why you can attract their attention to what people do there, their lifestyle, food, timetables, customs at school, holidays, everyday aspects close to them. (T8)

CLIL teaching appears to foster the category of *analyse*, leading to *differentiating* among the different parts and *organising* the elements (two subcategories within analyse) to find coherence. The greater reflection on the first and the foreign languages and cultures

is likely to correlate with the development of metalinguistic competences and metacognitive knowledge (see T6).

If one learns only his/her language, one does not usually reflect. By having to reflect learners are more perceptibly aware of how their language is. Metalinguistic competences are hence developed. (T6)

Furthermore, CLIL learners seem to be ready to develop the subprocess of *attributing*, ‘deconstructing’ what they have learnt about their language and culture (see T9’s comments on his use of Upside-down World Maps), and to determine ‘bias, values, or intent’ underlying the material they work with (Anderson & Krathwohl, 2001:68):

The idea that there are other ways of representing the Earth is an excellent starting point. Students become clearly disoriented. The different perspectives discovered in this new material allow us to change the conceptions, schemes, fixed ideas thanks to the CLIL programme. (T9)

Therefore, CLIL may lead, to the development of the cognitive processes of apply and analyse.

Evaluate and create

Higher order cognitive processes are likely to surface from CLIL tuition. ‘Understand’, ‘apply’ and ‘analyse’ blend into *evaluate*, the fifth cognitive process dimension. The first step in evaluating is *checking* or seeking inconsistencies or fallacies. An example is the realisation that there is not a one-to-one correspondence between terms in both languages, which may foment the search for further communication strategies and may lead individuals to broaden their mental schemes:

They realise that some expressions cannot be literally translated. This allows them to broaden their mental schemes. They look for more strategies, new ways of communicating. (T10)

The second subcategory within evaluate is *critiquing*. This capacity for judging things is attributed to CLIL students, who are described as broad-minded (T10).

CLIL learners, in general, are much more open, they question things more frequently; non-CLIL students tend to be more narrow-minded, there is some initial rejection, probably out of fear of the unknown. (T10)

Create, the highest order cognitive process, or ‘reorganize elements into a new pattern or structure’ (Anderson & Krathwohl, 2001:68) chiefly appears when it comes to *generating* or hypothesizing. Students are encouraged to build their own hypotheses about language and cultural dilemmas. T2 bears witness to students posing questions to find an answer to the reason why lunch time varies between France and Spain. Language related hypotheses are likewise generated as a result of the co-existence of languages in samples like learners’

understanding of language phenomena that even native speakers may not have questioned. Hence, CLIL tuition may bring about cognitive development in all its dimensions, a different way of looking at languages and the world, which seem to converge in learners' cognitive and personal growth (T2):

They understand that students eat in France at 12.00 because they pose the questions: 'If they eat at 12.00, how do they go to the school afterwards? Do they finish at 12.00?' 'Well, no, they eat at the school and then go back to lessons'. (T2)

When you speak your own language you don't question what you say and when the children ask me I cannot explain the reason. And they themselves strive to find a solution. There is a change of roles and they explain their hypotheses about my language. (T2)

Using a different language offers you a different way of seeing the world. (T2)

Final remarks

This study provides some evidence that CLIL education has an effect on students' cognition. Data substantiate not only that CLIL learners show equal or higher performance in the content subjects compared to non-CLIL students, but also that more solid learning may be facilitated when the two languages are used in tandem. A significant finding is that the combination of languages for the analysis of similar but slightly different content may make the content studied more meaningful.

The results yielded seem to confirm that CLIL students disclose high-level thinking cognitive gains (Lasagabaster and Sierra, 2009). CLIL learners are reported to think more critically and to undergo a constant process which invites them to restructure their mind schemes. Research supports the assumptions that CLIL may lead to awareness raising; making the knowledge of other social processes an intrinsic element of the school curriculum in the same way as the employment of two languages may provide the opportunity to yield a change of perspective and a change of view (Ávila López, 2009; Pavón Vázquez, 2009). All things considered, CLIL in Andalusia is deemed to be beneficial for the development of thinking processes leading to high quality learning (Coyle, 1999).

5. CONCLUSION

Experts in second language teaching such as Hammer (2011) question whether CLIL is a supposedly more effective approach than English Language Teaching. Even though numerous voices have been raised for the adoption of CLIL methodology, it is worth reflecting on whether there is no downside to CLIL. Hammer (2011) denounces the frenzy of CLIL and quotes Spain as one of the countries where it is 'all the rage', wondering whether the purported advantages for FL development equally apply to the content subjects. No doubt, this is prone to be a topical issue now and in the foreseeable future.

Although one of the limitations of this study is that it is based on teachers' impressions rather than on learners' actual performance, it is important to underscore the significant role teachers' perceptions play in their teaching process, from planning, through content and material selection, to assessing. This paper points out the way teachers perceive that the

Andalusian CLIL programme is affecting their everyday teaching practice and the direct and side effects it is having on learners and institutions.

CLIL in Andalusia seems to be meeting the purposes set out in *The Plan* (2005). From a language dimension, this case study endorses the premise that language skills are enhanced in the FL and possibly in other languages, the L1 included, and that the co-existence of different codes leads to language awareness and metalinguistic awareness. From a cognitive perspective, greater flexibility and higher order cognitive skills have been unveiled as a result of exposure to different cultural and linguistic patterns.

Language, culture and cognition, the sanctioned tenets for the implementation of CLIL in Andalusia, appear to be the guiding lines and outcomes of a type of education which is not only enriching the curriculum but is also prone to make a major contribution to learners' global education in today's plurilingual and multicultural Europe:

Languages open doors and the FL will allow them to move across Europe. They have opened their mind to the fact that we are not only in Andalusia, but that we are in Spain and in Europe. They begin to see themselves as true European citizens. (T4)

6. REFERENCES

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