

# Pushed Output and Noticing in a Dictogloss: Task Implementation in the CLIL Classroom

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Received: 12 February 2013 / Accepted: 30 July 2013  
ISSN: 1697-7467

**ABSTRACT:** This study investigates the role of output tasks in noticing a certain target form upon receiving subsequent input. Sixteen adolescent learners from an intact CLIL classroom carried out a multi-stage dictogloss task collaboratively and individually. They followed the usual steps in this type of task (listen and jot down key words, text reconstruction). Then they listened to the text once again and compared it with their production. The study revealed that (a) pushed output affects noticing in subsequent input and provides learners the opportunity to notice formal aspects of language and (b) pairs working in collaboration did not obtain better results.

**Key words:** Content and Language Integrated Learning (CLIL), output-input cycle, collaborative tasks, dictogloss and noticing

**Producción inducida y la detección en la dictoglosia: implementación de tareas en el aula AICLE**

**RESUMEN:** El presente estudio investiga cómo una tarea productiva puede promover la atención a la forma al recibir input tras dicha producción. Dieciséis aprendices adolescentes llevaron a cabo una dictoglosia en varios pasos de forma colaborativa e individual de la siguiente forma: escucharon un texto y anotaron palabras clave, reconstruyeron el texto; volvieron a escuchar el texto y lo compararon con su producción escrita. Los resultados revelaron que (a) la producción y consiguiente input son beneficiosos, dado que los aprendices dirigieron su atención a aspectos formales de la lengua; (b) los alumnos que trabajaron en grupo no obtuvieron mejores resultados.

**Palabras clave:** Aprendizaje integrado de contenidos y lengua (AICLE), ciclo de producción-recepción, tareas colaborativas, dictoglosia y atención

## 1. INTRODUCTION

Research on second language acquisition (SLA) has provided support for the facilitative role of pushed output in the acquisition process (Swain, 2005), especially when learners carry out tasks collaboratively (Storch, 2005). Swain (1995) proposed three potential functions that output plays in the process of acquiring a second language (L2): (a) noticing/triggering

of specific aspects of the target language: producing the target language may lead learners to notice a hole in their interlanguage (Selinker, 1972)); (b) hypothesis testing: learners may receive feedback by trying out new forms and structures; (c) conscious reflection on output upon production: learners can explicitly hypothesize about language itself by consciously reflecting on it.

Research on the noticing function of output (Izumi, 2002) is based on the premise that directing learners' attention to form during otherwise meaning-oriented learning helps them to acquire form and meaning in an integrated way. However, a research issue that has received relatively less attention and has produced quite mixed results is whether output tasks promote better noticing and learning of a targeted linguistic form than non-output task conditions (Leeser, 2008; Song & Suh, 2008).

Drawing on the psycholinguistic rationale and empirical research on output, the present small-scale study set out to explore the effect of output-input cycles on Content-and-Language-Integrated-Learning (henceforth CLIL) learners' noticing and production of English verb tenses in a multi-stage dictogloss task. CLIL is an educational approach where a foreign language is used as a medium of instruction of a content subject with a dual focus on form and content (Lorenzo, et al., 2009), a setting where, to the best of our knowledge, the effect of learners' production upon receiving subsequent input has not been investigated yet. The present study seeks to investigate what the act of receiving input after production can reveal about how and whether production prompts these learners to seek solutions in subsequent input while completing a subject-specific task about a topic of the course content. In addition, we aimed to assess whether collaborative work can be beneficial in this learning context, where increased exposure and a purportedly more interactive methodology may have a positive effect on learners' attention to form, an issue that has hardly been investigated (e.g., Basterrechea & García Mayo, 2013). The paper is structured as follows. Section 2 presents the theoretical framework and the main findings regarding the noticing function of output (Swain, 1995), research findings obtained comparing tasks carried out collaboratively and individually, and a brief overview of retrospective protocols. Section 3 describes the participants, materials employed and the procedure we followed. Section 4 presents the results, and section 5 concludes the paper pointing out limitations and offering lines for further research.

## **2. THEORETICAL FRAMEWORK**

### **2.1. The noticing function of output**

#### *2.2.1. Noticing*

Noticing is a mechanism that mediates between communication and acquisition (Gass, 2003: 224). According to Schmidt (1990), noticing is conscious attention to input, and noticing something in the input is crucial for acquisition to take place. "Noticing is the necessary and sufficient condition for converting input into intake" (1990: 129). Swain (1985) claimed that when learners are pushed to produce language, they may notice the gap between what they intend to utter and what their interlanguage allows them to say. As Kuiken and Vedder

(2005: 327) note, there seems to be a connection between learners' noticing of linguistic forms in the input and successful learning. However, it is not clear if focusing on a particular language form promotes the acquisition of that form (Schmidt, 1990, 1995; VanPatten, 1996, 2000; VanPatten & Cadierno, 1993).

### 2.2.2. *The noticing function of output in multi-stage tasks*

Recently, several researchers have investigated the role that language production plays in noticing, examining whether the act of producing output (orally or written) affects the noticing of linguistic elements in the target language. As mentioned above, it is widely agreed that producing language constitutes an essential part in L2 learning, but how learner attentional processes may be influenced by L2 production has not been clearly investigated yet (Izumi, 2002). Through output, learners' attention arises from the learners' need; thus output can be considered a learner-internal attention-drawing device (op. cit, 2002: 543). Current research posits that production constitutes an essential factor in L2 learning, and not only an opportunity for practising for greater fluency (Swain, 1985 *et passim*). Several researchers have examined the role of pushed output in noticing and the effect of receiving subsequent input (i.e., after production has taken place), by which output may serve as an attention-focusing device in carefully-planned multi-stage tasks (Izumi, 2002; Izumi & Bigelow, 2000; Izumi et al., 1999; Leeser, 2008; Song & Suh 2008; Uggen, 2012). In all these studies, in order to determine how output promotes noticing, learners are engaged in carefully-planned multi-stage tasks, by means of which in an output-input cycle learners are pushed in their production and can compare it with the input subsequently received (i.e., they listen to the text once again). This comparison aids learners in seeking relevant linguistic forms in order to convey meaning more accurately (Thornbury, 1997). Noticing is operationalized as notes taken in the input turn, i.e., when receiving the aural stimulus or as underlines in a written text. Results in these studies are mixed. Izumi and Bigelow (2000) and Izumi et al. (1999) analysed the English past hypothetical conditional with a heterogeneous group of ESL learners<sup>1</sup>, and they found that learners did not encounter more instances of the target feature under study than those who answered questions on content. The researchers hypothesized that the learners focused on problematic areas different from what the researchers had in mind in their study. Izumi (2002) analysed the effect of receiving written input after written production and textual enhancement (Sharwood Smith, 1993)<sup>2</sup> with English relative clauses produced by a group of ESL learners with different L1 backgrounds (e.g., Arabic, Chinese, French or Spanish) in two U.S. universities. Although learners in both enhanced and output conditions outperformed the control group, those who produced output scored significantly higher than those who were involved in a task with input enhancement. Exposure to input after production heightened the sense of problematicity and learners paid closer attention to what was difficult for them in their interlanguage.

Leeser (2008) analysed the use of the imperfect and preterite (past simple) in a dictogloss task completed by English speakers learning Spanish, a problematic distinction of L2 Spanish

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<sup>1</sup> The authors do not specify the L1 backgrounds of the participants in the study.

<sup>2</sup> Input enhancement is a kind of noticing by which targeted linguistic features of the input are made salient (Thornbury, 1997), so that learners can attend to them.

learners (e.g., Bardovi-Harlig, 2000; Montrul, 2005). Once again, the learners were engaged in an output-input cycle in a close-ended information task. Noticing was operationalized as notes taken in the second input turn. The findings showed that pushed output did not promote noticing of past forms, although there was an increase in attempts of proper uses of the imperfect on the post-treatment. Comparing pre-treatment and post-treatment writings, results showed a decrease in non-targetlike forms and an increase in their attempted uses of past tense morphology. Leaser (2008) concluded that learners were gaining control over the preterite and were improving the use of the imperfect form.

In an EFL context, Song and Suh (2008) compared noticing of the English past counterfactual conditional by Korean EFL learners using a text reconstruction task and a picture-cued writing task. Noticing was operationalized as underlining. Results showed that there were no differences between the first and the second input turn in noticing the target form. Additionally, the authors acknowledged that the fact that the learners were informed about the task they would accomplish biased the results. Recently, Uggen (2012) has replicated Izumi and Bigelow's (2000) study with university students from different L1 backgrounds (e.g., Korean, Arabic, or Mandarin) in the U.S., too. Besides underlining, a stimulated recall protocol was used as a noticing measure (see **2.3. Retrospective protocols** section for details) with English present and past hypothetical conditionals, the assumption being that underlining may not be enough to give account for what learners notice. In a stimulated recall (also called retrospective protocol), learners are interviewed by the researcher, generally after they are finished with a task, in order to analyse their metalinguistic reflections; that is, reflections on language learners engage in while comprehending and producing language (Suzuki & Itagaki, 2007:132). The written production of the target forms after the first and the second input turns was also analysed. Results showed that learners increased the correct use of the past hypothetical conditional from the first to the second written productions, although only 8 students (out of 30) produced those forms. Underlining showed that only 5 students underlined target forms, supporting Izumi and Bigelow's (2000) observation that underlining is a relatively uninformative source of evidence of what has been noticed. Similarly, in the stimulated recall learners referred to general grammar issues. However, there was a significant language gain on the post-test for the past hypothetical conditional, a result that shows that even if underlining did not provide evidence that the target feature was noticed, the output-input cycle, overall, was beneficial for the use of this form.

In summary, experimental studies on multi-staged task have not reported clear benefits for those learners who were provided with extra input to foster noticing of specific grammatical forms. In some of the studies, the researchers acknowledge design problems. For instance, in the studies by Izumi and Bigelow (2000) and Song and Suh (2008), once every treatment group was informed of the type of task they would accomplish in advance, they underlined those features they would need for the task they had been assigned. That is, their attention was drawn and consequently biased due to the fact that they "foreknewledged the tasks" (Song & Suh, 2008: 306). On the other hand, their negative results may be attributable to the way in which noticing was operationalized. Underlines may not be a good noticing measure, as already observed by Izumi and Bigelow (2000) and Uggen (2012), as non-underlined features may not necessarily go unnoticed. In addition, in Izumi et al. (1999), Izumi (2002) and Leaser (2008), noticing was operationalized as the notes the learners took in the input turns. We believe that the notes the learners take in these turns may not

necessarily have a grammatical focus, but they are more likely to focus on meaning with the idea of reconstructing the passage later on. Following these observations, in our study, we operationalized noticing as production of the target feature in the written task, and we also adopted a retrospective protocol as a complementary measure to assess noticing, as in the study by Uggen (2012).

## 2.2. Tasks and collaborative work

Collaborative work has received a great deal of attention in recent empirical research. Collaborative form-focused tasks integrate both attention to form and communicative interaction by means of a natural and communicative use of the target language. Several recent studies investigate the role of interaction and the effectiveness of task-based collaborative work in ESL, EFL and Spanish-as-a-foreign-language contexts, with jigsaw (Fernández Dobao, 2012), cloze (Nassaji & Tian, 2010; Storch, 1999), or editing tasks (Storch, 2007). These studies investigate the role of interaction comparing the learners' performance in collaboration and individually. Dictogloss (Wajnryb, 1990) is among the collaborative writing tasks that research has proven effective in terms of attention to form (Alegria de la Colina & García Mayo, 2007; Swain, 1998; Swain & Lapkin, 2001) and it is the task type chosen for the present study. In a dictogloss task, a short text is read twice at normal speed: the first time learners listen, and the second time they jot down words. Then, individually or collaboratively, learners pool their resources to reconstruct the text they have listened to as faithfully as possible. For instance, Kuiken and Vedder (2005) analysed how the outcome of a dictogloss task differed in collaborative and individual conditions. The linguistic focus under study was the passive in English, and the participants were high-school students. The interaction of those students working collaboratively was recorded and analysed. Results showed that those who reconstructed the text collaboratively did not produce more instances of the passive verb form. However, interaction among the participants did stimulate noticing of the target form.

Overall, these studies have yielded disparate results (e.g., Fernández Dobao, 2012; Storch, 1999, with positive results, and Kuiken & Vedder, 2005; Nassaji & Tian, 2010; Storch, 2007, with negative or non-significant differences) which call into question the benefits of collaborative work. What is clear is that more empirical research comparing small group and individual work is needed (Storch, 2007). Additionally, little research on peer interaction has been carried out in the CLIL classroom (e.g., Basterrechea & García Mayo, 2013; Nikula, 2012). We believe that a CLIL classroom is a good testing ground to assess collaborative work, as it is a teaching methodology where learner-learner interaction and dialogic activity need to be promoted (Coyle, 2007).

## 2.3. Retrospective protocols

In interaction research it is becoming common to examine the retrospective comments the learners make after having worked together to reconstruct a task; this is a type of methodological technique known as *stimulated recall* or *retrospective protocol* (Gass & Mackey, 2000) (see 2.2.2. *The noticing function of output in multi-stage tasks* for details). Metalinguistic reflections have been claimed to be an important source of second language

learning (Swain, 2005). In a study by Mackey et al. (2000), learners engaged in a two-way information exchange activity with a native or near-native interviewer, who provided the learners with feedback. The interactions were videotaped. Once they finished, the learners, together with the researcher, watched the recording of their interaction and were asked to recall their thoughts in order to jog up their memories about what they had said while completing the task. As explained above, Uggen (2012) used a stimulated recall protocol as an additional noticing measure. The learners in the study were videotaped as they received input in the form of a model essay containing the target feature. After they finished the task, the learners watched the recording. When the researcher realized that noticing operationalized as episodes that involved underlining or hesitation seemed to occur, the researcher stopped the recording and asked the learners to recall their thoughts.

Learners can also write about their thinking processes and reflect on how they solved their task. In a study by Suzuki and Itagaki (2007), the researchers were interested in the kind of metalinguistic reflections the learners engaged in after performing an output-oriented task. Intermediate and advanced Japanese learners of English were asked to write about how they solved two tasks (i.e., translation and scrambled sentences). Once they received explicit feedback in the form of a correct solution, learners wrote about their thinking processes. Learners' metalinguistic reflections showed how they noticed linguistic forms and tested hypotheses, which supported the Output Hypothesis (Swain, 1995): learners' conscious metalinguistic reflection allowed them to control and internalize linguistic knowledge. This type of reflections encouraged learners to engage in syntactic processing, which is a major cognitive process in second language acquisition (Suzuki & Itagaki, 2007).

Based on the theoretical background and the findings from the research summarized above, the present study addresses the following research questions:

1. Does pushed output (production) in a dictogloss task affect learners' noticing of English verb forms on subsequent input?
2. Does collaborative reconstruction lead to more noticing of the target form than individual work?
3. What kinds of written metalinguistic reflections do learners engage in after performing a multi-stage dictogloss task?

### **3. THE STUDY**

#### **3.1. Purpose of the study**

The present study aims to assess whether CLIL learners' output while completing a dictogloss task is affected by subsequent input. As seen above, research has examined the effect of production on learners' attention to form in ESL and EFL contexts, but, to our knowledge, the issue has not been investigated in a CLIL context to date. More specifically, we aim to explore if a multi-stage dictogloss task can foster attention to form (English present and past tenses) in this setting with a subject-specific text about the course content in a History lesson. Its second aim is to analyze whether collaborative work is more beneficial than individual work while completing this task. Finally, we are also interested in

assessing whether learners engage in some type of metalinguistic reflections after performing a multi-stage dictogloss task.

### 3.2. The setting and participants

The present study was carried out in the Basque Autonomous Community (B.A.C.) in an intact classroom with adolescent bilingual learners in their last year of compulsory secondary education. The participants were about to complete a multilingual project, where English is introduced at the age of four. The project culminates with the adoption of a CLIL approach in the final stages of Secondary Compulsory Education (with students aged between 14 and 16). It is then when Social Sciences is taught through English (*Human Geography* in 3<sup>rd</sup> year, and *Modern History* in 4<sup>th</sup> year) (Ball et al., 2004). The students also have their regular English as a school subject classes. All the learners participating in this study have been exposed to English for 12 years in a classroom setting (1520 hours approximately).

Sixteen (16) students (5 males, 11 females) from an intact classroom participated in the study. The Social Sciences teacher, a native speaker of English, considered that the students' proficiency level was equivalent to B1 (a lower autonomous user), according to the Common European Framework for Languages (Council of Europe, 2001), which is the proficiency level the students reach at the end of the 4<sup>th</sup> year of compulsory secondary education. Additionally, they were former students of one of the researchers, who was consequently aware of the strengths and weaknesses of the group.

Table 1 provides information about the participants in this study:

*Table 1. Participant distribution*

| Participants      | Age range | Age mean |
|-------------------|-----------|----------|
| 16<br>(5 M, 11 F) | 15-17     | 15.45    |

In order to maintain the ecological validity of the study, the Social Sciences teacher agreed on the task type developed in the research and provided suggestions regarding the text to be reconstructed by the students and the level of difficulty of the aural input the students were to receive. Regarding the CLIL (*Human Geography* and *History*) class lectures in which the students participated, they focused on the course content established by the official curriculum; the students were exposed to a great deal of input from their teacher and the Modern History textbook. In the case of English lectures, they were equally exposed to a great deal of input, including all time references. The lessons integrated linguistic skills, focusing on grammar very frequently, including the use of the simple present.



### 3.3. Materials and procedure

#### 3.3.1. Dictogloss task

As previously stated, a type of text reconstruction task (i.e., dictogloss) was chosen for the present study. The passage was an adapted version of a text from their course materials used in their History class about *The Berlin Wall*<sup>3</sup> in the form of a piece of news from 1961 published in Berlin during the Cold War. The text contained instances of present and past tenses (see Appendix).

#### 3.3.2. Procedure

Eight students (four dyads) reconstructed the text collaboratively and, following Leiser's work (2008), eight more students reconstructed it individually. The students did not know in advance they were to perform different tasks, or the linguistic focus we were analysing (use of present and past tenses). In addition, they were asked not to turn pages back and forth in the experimental material so that their attention would not be drawn by different task characteristics, which biased the results in Izumi and Bigelow (2000) or Song and Suh's work (2008). Table 2 illustrates the different stages of the experimental procedure.

Table 2. Sequence of activities in the experimental design

| COLLABORATIVE DICTOGLOSS TASK | INDIVIDUAL DICTOGLOSS TASK      |
|-------------------------------|---------------------------------|
| Listen twice – take notes     | Listen twice - take notes       |
| Reconstruction 1 (in pairs)   | Reconstruction 1 (individually) |
| Listen to text - take notes   | Listen to text - take notes     |
| Reconstruction 2 (in pairs)   | Reconstruction 2 (individually) |
| Retrospective questionnaire   | Retrospective questionnaire     |

The participants completed a multi-stage dictogloss task, as follows:

(1) Learners listened to a short passage dealing with the course content (*The Berlin Wall*). They were asked to listen only and not write anything down. The text was read by a native speaker of English.

(2) Secondly, they listened to the passage again and were instructed to jot down notes in English.

(3) Next, pairs reconstructed the passage using the notes they had previously taken, and individuals reconstructed it using their own notes as well.

(4) Learners then listened to the passage a third time, took notes, and subsequently compared it with the text previously written (Thornbury, 1997).

<sup>3</sup> Text adapted from *Social Sciences. Compulsory Secondary Education. Second cycle*. Vol 3, page 21.



### 3.3.3. Retrospective questionnaire

Finally, all groups completed a written retrospective questionnaire (Suzuki & Itagaki, 2007) in order to share the metalinguistic reflections they engaged in while performing the dictogloss task. They were asked about 1) whether they had noticed any differences between the text they listened to the second and the third time (after production), and 2) the type of reflections (i.e., content or grammar) those in the collaborative condition had engaged in.

### 3.4. Scoring and analysis

Noticing was operationalized by tallying and comparing the number of correct instances of present and past tense forms in obligatory contexts between the first and second reconstructions, and between collaborative and those working individually. Finally, the written metalinguistic reflections the learners engaged in were analysed qualitatively in order to determine if they had focused on content or on grammar while performing the task.

## 4. RESULTS

In order to determine whether pushed output (i.e., production) in a dictogloss task affects learners' noticing of the target form upon receiving subsequent input, we compared the correct instances of the present and past tenses between the first and second reconstructions. Table 3 displays the mean raw and percentage scores for the correct uses of present tense in obligatory contexts (11) and of past tense in past (2) contexts. As the Table indicates, the number of correct uses from the first to the second text reconstructions increased. In order to determine whether this increase was significant, the scores were submitted to a paired-samples *t*-test, as well as a nonparametric Wilcoxon Signed Ranks Test due to the low number of participants and non-normally distributed data. The *t*-test revealed that learners produced significantly more present tense forms on the second reconstruction than on the first, ( $t(15) = 2.52, p = .023$ ), as did the Wilcoxon Signed Ranks Test, ( $z = 2.26, p = .024$ ). Neither test revealed a significant increase for correct usage of the past ( $p$ 's  $> .30$ ).

Table 3. Descriptive statistics of correct present and past tense uses in obligatory contexts ( $N = 16$ ) (Standard deviations are shown in brackets)

|         | Reconstruction 1        |                  | Reconstruction 2        |                  |
|---------|-------------------------|------------------|-------------------------|------------------|
|         | Mean Raw Score<br>(S.D) | %                | Mean Raw Score<br>(S.D) | %                |
| Present | 1.06<br>(2.05)          | 9.66<br>(18.62)  | 1.63<br>(2.36)          | 14.77<br>(21.48) |
| Past    | 0.75<br>(0.93)          | 37.50<br>(46.54) | 0.81<br>(0.91)          | 40.63<br>(45.53) |

Results show that pushed output does affect learners' noticing of English present tense forms. Production (i.e., reconstructing the text) promoted noticing of this linguistic form upon receiving subsequent input. Table 3 shows that participants significantly improved their production due to the fact that exposure to input after production gave learners the opportunity to pay closer attention to formal aspects. The following are some examples of learners' production and how pushed output promoted noticing on subsequent input<sup>4</sup>.

- (1) TR1: a young man who *work* in the West and *live* in the East.  
TR2: a young man who *lives* in the West and *has a job* in the East.
- (2) TR1: *if someone* lives in the East and *have the work* in the West...  
TR2: *A young man that* lives in the East and *works* in the West...
- (3) TR1: The students *couldn't go* to the university.  
TR2: The students *can't go* to the university.

In examples (1) and (2), the learners clearly correct the 3<sup>rd</sup> person singular, present tense in the second reconstruction, and in example (3) the verb tense is corrected, by comparing their original output with subsequent input, which lends support to the hypothesized effect of pushed output (Swain, 1995) in triggering noticing.

Thus, receiving input after production can push the learners to process the input effectively, since exposure to input after production may have heightened the sense of problematicity, as already observed by Izumi (2002). Based on the results in the present study, we can conclude that this kind of form-focused task does promote noticing (or some kind of form processing in the input). It therefore supports one of the claims of Swain's (1995) Output Hypothesis.

It is worth noting, however, that some of the students used the past tense in their final production. We could speculate that they are circumventing the present tense form based on their expectations; that is, they used the past tense in their reconstructions because the pastness feature of the events described in the text (a piece of news published back in 1961) prevailed over the grammatical forms, which is part of Swain's (1985 *et passim*) point: left to their own devices, learners are engaging in semantic processing and not in deeper syntactic processing. However, production led some of the students to notice a gap between what they produced and the grammatical forms in the passage to be reconstructed, which in turn led them to consciously recognize the difference between what they produced in the first reconstruction and what they needed to discover about the actual passage. These findings support the noticing role of output as a "consciousness-raising function" (Swain 1995: 129), in the sense that some learners in the present study consciously noticed the linguistic form under study, and noticing led learners to recognize what they needed to be aware of in their second language.

Research question 2 referred to results regarding collaborative and individual work. In line with previous literature on the topic reported above, we wanted to examine if collaborative work would yield more positive results than individual work. Table 4 displays the

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<sup>4</sup> TR1 refers to the first text reconstruction (which took place after receiving the input twice), and TR2 to the second reconstruction (after listening to the text a third time); changes from one reconstruction to the other are shown in italics.

mean uses of present forms for the collaborative and individual output groups on the first and second reconstructions, and Table 5 shows the mean number of present forms added and changed from the first to the second reconstructions. The data for the present tense forms on both reconstructions were submitted to a  $2 \times 2$  ANOVA. The between-subjects variable was Group (collaborative vs. individual) and the within-subjects variable was Reconstruction (first vs. second). The ANOVA revealed a significant effect for Reconstruction, ( $F(1, 14) = 6.23, p = .026$ ), indicating that learners produced a greater number of correct present tense uses on the second reconstruction than on the first. However, there was no effect for Group, ( $F(1, 14) = 1.86, p = .194$ ), and no significant Reconstruction  $\times$  Group interaction, ( $F(1, 14) = 0.69, p = .419$ ), suggesting that learners improved in their correct use of present tense forms regardless of whether they worked individually or collaboratively.

*Table 4. Descriptive statistics of correct present form uses in first and second reconstructions in collaborative and individual groups (Standard deviations are shown in brackets)*

|               | Reconstruction 1        |                  | Reconstruction 2        |                  |
|---------------|-------------------------|------------------|-------------------------|------------------|
|               | Mean Raw Score<br>(S.D) | %                | Mean Raw Score<br>(S.D) | %                |
| Collaborative | 0.25<br>(0.46)          | 2.27<br>(4.20)   | 1.00<br>(1.20)          | 9.09<br>(10.87)  |
| Individual    | 1.88<br>(2.70)          | 17.05<br>(24.50) | 2.25<br>(3.11)          | 20.45<br>(28.23) |

*Table 5. Descriptive statistics of correct present forms added and changed in first and second reconstructions in collaborative and individual groups*

|               | Present Added |      | Present Changed |      |
|---------------|---------------|------|-----------------|------|
|               | M             | SD   | M               | SD   |
| Collaborative | 0.38          | 0.51 | 0.38            | 0.74 |
| Individual    | 0.00          | 0.00 | 0.38            | 0.74 |

Results in Tables 4 and 5 show that the participants in the collaborative condition did not obtain better results than those working individually, suggesting that these learners did not benefit from being paired in production of the target feature under study; in other words, co-constructing the passage did not enhance learners' resources in terms of noticing and producing the target forms, giving and receiving feedback, or providing corrections and reassurance. In fact, learners working individually obtained better results in both reconstructions (see Table 4). Research question 3 referred to the kinds of written metalinguistic reflections learners engaged in after performing a dictogloss task. Recall that the two groups were asked if they had noticed any differences between the first input cycle (by which they listened to

the passage twice) and the second input cycle (they listened to the passage a third time). Most students declared they completed or corrected pieces of information they had missed for the first reconstruction. Some referred to the fact that in the first reconstruction, they had written verbs in tenses different from the original text, but due to the low number of students who mentioned it, it cannot be considered significant.

We were also interested in the type of reflections the collaborative group engaged in while reconstructing the text in pairs. It seems that in the second input turn, they were more concerned about the events described in the text than about the features targeted by the task. Very few talked about grammar or spelling. In other words, the students' discussions in our study focused on content and added information missing from the first turn, as observed in Uggen's (2012) study. As Kuiken and Vedder (2005) point out, one of the conclusions drawn from their study where a dictogloss task was carried out individually and collaboratively (mentioned above) was that participants' discussions focused on the meaning they wanted to express. Certainly, it is difficult to predict which language areas will draw learners' attention in a form-focused task (cf. García Mayo, 2002: 169). Learners have their own agenda and they focus on areas different from those expected by the researcher (García Mayo, 2002; Izumi & Bigelow, 2000; Izumi et al., 1999; Swain, 1995).

## 5. CONCLUSION AND FUTURE RESEARCH

This study set out to investigate the effect of output on CLIL learners' noticing of the English simple present and past tenses. In line with previous research, this study aimed to examine the effect of learners' production of pushed output upon receiving subsequent input and the benefits, if any, of that production when working collaboratively using a dictogloss task.

Briefly, the findings for our first research question (*Does pushed output (production) in a dictogloss task affect learners' noticing of English verb forms on subsequent input?*) suggest that production led students to notice the gap between what they produced and the grammatical forms in the passage to be reconstructed. In other words, pushed output did affect noticing of present forms in subsequent input and exposure to input after production gave learners the opportunity to pay closer attention to formal aspects. These findings suggest that the comparison of the production of the English present tense between the first and the second reconstructions may be an adequate noticing measure that can help us to examine how production affects learners' attentional processes. Research question 2 (*Does collaborative reconstruction lead to more noticing of the target form than individual work?*) considered whether collaborative work would be more beneficial than individual work while completing the dictogloss task. The findings in this study suggest that learners improved in their correct use of the target form regardless of whether they worked individually or collaboratively. In other words, co-constructing the passage did not enhance learners' resources, a finding obtained in numerous studies conducted so far (e.g., Kuiken & Vedder, 2005; Nassaji & Tian, 2010; Storch, 2007). Our final research question (*What kinds of written metalinguistic reflections do learners engage in after performing a multi-stage dictogloss task?*) focused on written metalinguistic reflections they completed after the dictogloss task. Due to the low number of answers obtained, no quantitative analysis has been carried out but it was

interesting to see that students in the collaborative condition were more concerned about the events described in the text than about its grammatical features.

Overall, the findings of the study lend support to one of the claims in Swain's (1995) Output Hypothesis: our results indicate that exposure to input after production gave learners the opportunity to pay closer attention to formal aspects, that is, the English simple present tense. In other words, pushed output can induce the learners to process input effectively. Thus output served as an attention-focusing device of relevant elements of the input (Leeser, 2008).

The findings in this study also support the effectiveness of dictogloss tasks in drawing attention to language form, as well as prompting learners to reflect on their own output. As Swain (1995) suggested, tasks which encourage reflection on language and are oriented to getting meaning across can help us to investigate how learners' explicit hypothesizing contributes to language development. However, collaborative interaction had no effect in the production of any of the target forms. Finally, retrospective comments after the text reconstruction task in the present study showed that learners primarily focused on content.

As mentioned above, this is an exploratory study that has investigated the implementation of a dictogloss task in a CLIL classroom and it can be considered as a first step in examining whether and how an output-input cycle in a dictogloss task can be beneficial in this context. More specifically, we have analyzed these learners' noticing of English verb tenses embedded in a dictogloss task and how the learners' production is affected by subsequent input. But there are clearly limitations in the study. Firstly, a larger number of participants would have been necessary to provide more robust results and a delayed post-test could have been used in order to determine the extent to which the results reported here would be maintained.

The present study, however, suggests further lines of research that could be tackled in future work. For example, further research should be done on how CLIL learners interact in subject-specific tasks and whether or not explicit reflection on language in collaborative work occurs. In this vein, some voices are already pointing at the need to employ form-focused tasks in CLIL (Dalton-Puffer, 2011). Further research should also focus on how the purported dual focus on form and content is established in the CLIL classroom. Finally, the relative effectiveness of different output tasks should be empirically tested with regards to the noticing function of output in further investigation.

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## APPENDIX

East Berlin, 1961

People living in the East can no longer go to West Berlin under any circumstances. In other words, a young man who lives in West Berlin but works in the East automatically loses his job; families are separated; students can't go to university.

Before the wall was built, millions of people escaped to the West for private, political or economic reasons. But now only by building the wall the communist East German regime stops the exodus.

President Khrushchev says that the wall protects the East Germans from the American spies. In fact, the wall is so high that if somebody wants to climb it, he might get injured, or even killed by East German soldiers.

## ACKNOWLEDGEMENTS

The research was supported by the following research grants: UFI11/06 from the University of the Basque Country (UPV/EHU), and IT-311-10 from the Basque Government.

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

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Received: 5 December 2012 / Accepted: 30 July 2013

ISSN: 1697-7467

**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*

|   |   |
|---|---|
| <b>Number of disciplines taught through CLIL:</b> | It is customary for schools to teach at least three disciplines.  |
| <b>CLIL groups per grade level:</b>               | At least one group is offered.  |
| <b>Languages of the programme:</b>                | Spanish – English / French / German   |
| <b>Language use:</b>                              | Spanish is used in each CLIL subject together with the FL of the programme.                             |
| <b>Teaching time allocated to the languages:</b>  | Initially, at least 1/3 of each subject is taught in the FL. This percentage may gradually increase.    |
| <b>Teaching model:</b>                            | 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 (Alegría 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:
  - T1<sup>1</sup>. 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

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<sup>1</sup> 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 NLSSs, 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***<sup>2</sup> (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

<sup>2</sup> 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 favours *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)

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