Enhancing the Implementation of Bilingual Education at University through Practice: Analysis of CLIL Trial Lessons by an ESP Teacher

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A B S T R A C T

University teacher training specialized in bilingual education is spreading around Spanish universities. Particularly in Andalusia, where our research originates, universities are searching for systematized methods to train their future bilingual teachers in Content and Language Integrated Learning (CLIL). This paper presents the case of the University of Cadiz, where this study was carried out. This university followed a new training formula led by an ESP (English for Specific Purposes) teacher who performed the role of CLIL teacher trainer. Based on the description of the a foresaid CLIL teacher training scheme known as "CLILUT courses" (that is to say, CLIL Training or University Teachers), this study focuses on an in-depth analysis of CLIL trial lesson plans elaborated within such a peer-teacher environment. The present study is then aimed at examining the data obtained through in-class direct observation of 68 CLIL trial lessons which were created from 2010 to 2014 at the University of Cádiz and analyzed with the help of rubrics created upon Nunan's theory. Results show that ESP teachers can offer substantial help for new CLIL university teachers who might face specific foreign language-related problems when starting to take part in bilingual programs.

1   Introduction

Content and Language Integrated Learning (CLIL) programs as a teaching formula to integrate the learning of content and language have become profuse throughout the European territory. The development of this teaching approach is determined by the recurrent debate on good practices in CLIL teaching in Europe (Eurydice, 2006:9). Particularly, in Spain the region of Andalusia has experienced an important boost of bilingual education since the approval of the Plurilingualism Promotion Plan in 2005, so as to meet the new needs of society to "reinforce the effectiveness and equality of education systems". In order to do so, certain actions were established to improve the plurilingual and pluricultural competences of its students. Fostering the creation and adaptation of primary and secondary education centers to implement bilingual programs was one of its main objectives, as a way of addressing the integration of languages and content in class.

However, higher education in Spain, while trying to recently be quickening its pace, seems to have commenced its entry into the bilingual/plurilingual educational world later than schools.

Bearing in mind that research has majorly addressed lower levels of education, aimed at providing a detailed study of the teaching practices in bilingual education that are currently present at university, a deep analysis needed to be carried out.

Teacher Training: Focusing on language

Recent literature on CLIL at university level has revealed CLIL experts concern for teachers' attitude towards language within the context of bilingual education. In their work, Rubio and Moore (2017) found out that these

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teachers participating in an on-going CLIL teacher training program were able to make progress in their process of re-conceptualizing the roles of language in learning.

In previous studies about ESP teaching, materials design and evaluation has meant a major focus (Bocanegra, 2010) for researchers and professors. While it is true that ESP and CLIL do not refer to the exact same teaching-learning context, there is a crucial link between both which is reflected in the present paper. As it will be seen in section 2, the elaboration of ESP materials was an essential and illuminating part of the bilingual teacher training program we are about to describe. This meant content teachers (that is to say, those who teach non-linguistic subjects) were interested in how an ESP expert designed teaching materials for a language course. Language learning and authentic language use was then awakening a growing interest for content teachers who were about to become CLIL teachers.

CLIL teacher training developers need to consider the Integration of Content and Language in Higher Education (ICLHE) as a teaching approach which fosters language diversity, as seen by Rubio and Hermosin, (2010) aimed at improving both language and content skills. The present paper will then be paying attention to such integration, making particular emphasis on the linguistic aspects to cover in a CLIL teacher training scheme, in which the leading role of the ESP teacher will also be in charge of observing the trial lessons to examine.

Background of the study

In 2010, a research process with CLIL lessons was launched at the University of Cadiz (henceforth UCA). A new CLIL teacher training scheme, named by Contero (2017) as CLIL for University Teachers, CLILUT, was introduced. This training formula was originally aimed at developing the capacity of the professors at the Faculty of Economic and Business Sciences to design their own teaching material in English. This training activity consisted of 60 teaching hours added to another 30 hours of individual work through a virtual platform. Therefore, a teacher teaching scheme was designed to provide strategies to help the participants, CLIL Professors in Training (henceforth CLIL-ProfiTs), in their task of elaborating didactic materials for the planning of their lessons.

At this preliminary phase, the main objective of the training activity was to promote the deep reflection on the linguistic content of CLIL lessons. In fact, we observed that the CLIL-ProfiTs started to realize the importance of language and of the process of acquiring foreign language skills through CLIL, even asking the CLIL teacher trainer questions such as the following: What vocabulary should I use in my lessons? And how do I make that vocabulary not too abstract?

At this point, we found ourselves in the following situation: We had to research within the specific areas of each CLIL-ProfiT so as to provide them with English for Specific Purposes teaching materials. However, surprisingly enough, when those ESP teaching materials were brought to class, CLIL-ProfiTs showed to be deeply interested in using these teaching resources in their content lessons. This leads us to believe that the CLIL-ProfiTs showed to have real needs which were not only language-related but also methodology-related. As a consequence, the following training activities that were offered to the CLIL-ProfiTs included methodological training in CLIL. We can then say that our courses, originally intended to offer English language training, started to offer CLIL training.

Main objective: Designing and analyzing CLIL training for University Teachers

Following the previous experience, departments of several research areas such as Analytical Chemistry benefited from up to six training activities between the academic courses 2008-9 and 2013-14. In such CLILUT courses a total of up to 20 CLIL-ProfiTs per group were offered both linguistic as well as methodological support. Other groupings of CLIL-ProfiTs similarly well aware of the importance of implementing teaching through English programs were the following: The Department of Physical Chemistry, the School of Engineering, the Faculty of Education Sciences, the Faculty of Law and the Department of Biomedicine, Biotechnology and Public Health.

Parallel to the CLILUT courses, during the years 2013 and 2014, the UCA Teaching Innovation Unit offered different "Introduction to CLIL" courses especially aimed at disseminating the principles of CLIL The two main aspects distinguishing these Introduction to CLIL courses from CLILUT courses were their length and their level of specialization. The introductory courses were much shorter in time and less specialized, as they were

offered to all professors no matter what field they researched or taught in. A total of 97 participants enrolled in these "Introduction to CLIL" courses which, with only four hours of in-class and two hours of individual work through the virtual platform, gave way to numerous studies and innovation projects in the university.

The objectives that were intended to be achieved with this training activity were the following:

- Presenting the origin and the main characteristics of Content and Language Integrated Learning (CLIL) as well as the Integration of Content and Language in Higher Education (ICLHE).
- Analyzing the advantages and disadvantages of the application of this teaching practice
- Examining some initiatives put into practice in other universities as well as in the UCA
- Facing fears and abandoning false beliefs about teaching in L2
- Facilitating access to appropriate teaching resources for teaching CLIL
- Promoting group work and debate among professors within the same area
- Promoting communication and the exchange of ideas between teachers of non-linguistic areas and language experts

In addition to the training measures adopted in the UCA, a similar CLIL training scheme was implemented at the University of Granada (UGR), giving us the opportunity was to contrast the results obtained in the UCA with the data gathered in a different context (those which will be presented in section 3). The bilingual itinerary that had been in place since the 2011-12 academic year in the Degree in Primary Education was the framework in which our training formula was developed. After three years of experience in bilingual teaching, in 2014, several UGR teachers teaching in the aforesaid bilingual itinerary expressed their concern about a possible lack of methodological training that could be the case among the professors involved in this project. So, after analyzing the situation, we agreed on a training activity that could be beneficial for all of them. As main objectives we can highlight:

- Fostering the exchange of opinions, experiences and initiatives among the teachers involved in plurilingual/bilingual teaching experiences at the UGR
- Training the UGR teaching staff for their bilingual teaching
- Designing, analyzing and evaluating CLIL-ICLHE lessons adapted to the different courses or curricular areas taught

Focusing on the CLILUT courses, which were, as said before, our main source of information, it is essential to identify the methodology carried out in this particular CLIL teacher training scheme, which comprised the following phases (see Figure 1):

Figure 1: CLILUT methodology

1. Review of the teaching material for the original CLIL sequence: The study began with CLIL-ProfiTs designing their own didactic materials as a basis for the development of their CLIL lesson.
2. Direct observation of the original CLIL lesson in class: Once we had carefully examined the elements included in the material developed for the original CLIL lesson, we proceeded by taking it to the classroom. Taking into account that these students were also CLIL-ProfiTs, (partners of the person in charge of the didactic sequence to be carried out in class) they played the role of the student enjoying and learning from the properly designed aspects of the didactic proposal and, at the same time, detecting those ones presenting certain obstacles to their progress.
3. Elaboration of an alternative CLIL sequence: Parallel to the development of phase 1, the trainer, an ESP teacher, carried out an essential phase for the success of our CLILUT courses. In this phase, the ESP teacher designed an alternative CLIL lesson which aimed to: 1) respond appropriately to the objectives set by the

CLIL-ProfiTs; 2) apply the particularities of CLIL teaching; and 3) suggest solutions to avoid the problems derived from the original CLIL lesson. This proposal was carried out after the development of the original CLIL lesson, so that small variations might occur between phases 1 and 2.

4. In-class implementation of the alternative CLIL lesson: During this phase, CLIL-ProfiTs played the student's role. This allowed them to experience an alternative formula of bilingual teaching, which would also be evaluated to check its effectiveness. Thanks to the positive evaluations that the CLIL-ProfiTs made of the alternative CLIL lessons after their implementation, we could verify the effectiveness of the techniques and methodological strategies presented in these didactic sequences.

As can be seen, the samples to be analyzed were not examined in an actual university class but in a piloting context. These CLIL teaching proposals consisted of trial lessons which were presented in a peer-teaching environment in which all participants in the CLILUT courses were university teachers.

Research framework

A starting point for our analysis was the study that David Nunan (1989) presented in his book *Designing Tasks for Communicative Classroom*. Nunan, a great defender of curricular designs of a communicative nature, revealed a proposal of critical analysis of the didactic programs in the section regarding the evaluation of tasks. It is important, at this point, to clarify that although we were aware of the theoretical problems that persisted in the communicative approach and therefore we preferred to apply post-communicative methodological approaches, in this section of our research process we took Nunan's work since his contribution was sufficiently appropriate to make an analysis of CLIL teaching at university. However, given that in our study our main aim was not to evaluate language teaching but bilingual teaching, we started from the linguist's proposal for language communicative teaching, but we undoubtedly needed to make an adaptation so as to focus on the objective of our study.

Our adaptation involved starting with the seven items that Nunan defined in his list to evaluate communicative tasks and subsequently adding four other specific ones. The items that Nunan considered are:

- 1: Objectives and reasoning. These items (as well as contents and conclusions) were taken from Nunan, so as to review how the planning of the didactic lessons was made, as we thought that every sequence had to start from some catalogue of objectives which showed to be linked to specific contents and which had to lead us to certain conclusions.

- 2: Input; 3: Activities; 4: Roles and scenarios; 5: Development of the unit; 6: Levelling and integration; and 7: Evaluation. These were items obtained as such from Nunan and used in our analysis the way the linguist did in his study, since we considered that they were equally useful in the data analysis with CLIL lessons.

    To these seven items we added the following four:

- Teaching materials. We believed it was essential to analyze the way in which CLIL-ProfiTs developed their didactic materials, detecting if they elaborated them from their materials in Spanish or if they designed totally new materials.

- Implications derived from the use of L2. The mere fact of the integration of the L2 in university education would generate a series of circumstances that could only take place within this context of bilingual education. We were therefore convinced that we had to keep in mind certain aspects of the language, such as linguistic adaptation to the participants in the CLIL teaching process. While recognizing that CLIL-ProfiTs were not experts in the language but in the content, we understood they had to take into consideration certain aspects of the language in the design of their didactic proposal.

- Difficulties in written communication. It was important to observe if the CLIL-ProfiTs managed to communicate correctly with the students through the written didactic materials. Misunderstandings led by inappropriately written materials could hinder the optimal development of the session. It should be mentioned that we did not evaluate written comprehension, since CLIL-ProfiTs rarely showed their level of written comprehension in the interactions that took place in the research process with CLIL sequences

- Difficulties in oral communication. Oral communication was an essential item to be analyzed in CLIL teaching. Interestingly enough, as in the vast majority of the original CLIL lesson analyzed there was not enough interaction between teacher and student, we did not have enough data as to be able to assess CLIL-ProfiTs listening comprehension. Therefore, we only took into consideration production rather than comprehension.

In short, our data analysis with the original CLIL lessons focused on 11 items, divided into methodological and linguistic items. Particularly, in this paper we will be considering those five items more directly related to linguistic matters.

Input

Subcategories:
- 1A. It is authentic.
- 1B. It is appropriate to the ultimate goal.

The quality of the input received by the student is extremely important for learning L2. Therefore, the features of the input offered in each original CLIL lesson had to be analyzed.

First, we identified if the input was authentic (subcategory 1A). With this, we observed if the use of the L2 was real or not, if the expressions were taken from the reality external to the classroom or if, on the contrary, we found expressions that were not authentic. This aspect was definitely influenced by the level of L2 that the teacher had. Whenever the level of FL was not high enough, we used to find expressions that were not used in practice.

We also believed that the input offered had to be linked to the final goal of the sequence (subcategory 1B). As an example, if in our main objectives we include the ability to analyze or describe a specific element, for students to achieve this goal they must have received input facilitating the analysis or description of that element. In general, as we will see, whenever the objectives were verbalized, they were present throughout the session. Therefore, the input and the proposed activities usually responded to them.

Levelling and integration

Subcategories:
- 2A. Students' tasks are appropriate for their L2 level.
- 2B. Tasks are structured so that they can be carried out at different levels of difficulty.

In CLIL teaching at university we must always keep in mind different levels of learning related, mainly, to the degree of knowledge of the content, as well as the students' FL level. This item studied the combination of both aspects as well as the lesson's adaptation to the students' needs.

Firstly, we examined if the tasks could be appropriate for the students´ FL level. At this point, we must remember Cummins´ CLIL matrix (1984), which underlines the importance of the level of cognitive and linguistic demand of the teaching task we put forward. Both types of demand must increase throughout the lesson and, therefore, progress from a low cognitive and linguistic demand to a higher requirement. So, for instance, in a first stage we can ask our students to repeat a list of elements that we have previously mentioned, and later, we can ask them to analyze the consequences of a certain event. Cognitive complexity must increase, just as it should happen with linguistic demand. If our students have a level B1 of the CEFR in L2 and we ask them questions which have a structure more typical of a C1, we may not get the answer we expect. Consequently, in this subcategory 2A we tried to determine if the CLIL-ProfiTs were able to obtain the desired response from the students (or their colleagues, while in the CLILUT courses) thanks to a previous analysis of the cognitive and linguistic demand of each activity.

Secondly, some didactic sequences, in order to be adapted to the heterogeneous FL levels of students, are structured so that they can be carried out at different levels of difficulty (subcategory 2B). This allows us to design a single task addressing two different levels of cognitive or/and linguistic demand. Once CLIL-ProfiTs take this task to the classroom, s/he can select the most appropriate level of difficulty for those specific students.

Concurrently, on those occasions when we are not completely clear if our students are going to be able to respond correctly to the questions posed, we can propose a more complicated version of the same task. This process could be used when we want the students to complete some sentences which summarize something seen in class. We can either leave the spaces in blank so that they try to fill in the gaps, or we can give them options. We can even use both options of the same task in different phases. While in the first phase, students would try to carry out the task without any help, in a second phase, students would be asked to do the activity with help. In this way, CLIL lessons would be designed to cater to both the most advantaged students as well as those who are going at a slower pace. We can then say a similar process could be applied to resort to a flipped-classroom methodology, in which through student centeredness we are more responsible on their learning (Danker, 2015:174) allowing teachers to adapt to different kinds of students who are asked to work autonomously.

Linguistic items derived from the use of L2

Subcategories:
- 3A. Basic CALP vocabulary analysis is included.
- 3B. L2 is properly integrated.
- 3C. Lower level concepts are analyzed.

The mere fact of the integration of the L2 in university education generates a series of circumstances which take place exclusively in this context, the context of the implementation of bilingual programs at higher education. In such an environment, CLIL lessons must always take into consideration certain aspects of the language which, although contemplated by a teacher whose field of study is not the language itself but the content, they should always be noticeably present in the didactic proposal.

Starting from the vocabulary that the CLIL university student has to handle in L2, the teacher should keep in mind that their students may not know basic classroom vocabulary. When considering, for example, an introductory psychology class in the Degree of Primary Education, students may need to study different specific types of psychopathologies assuming that they know what the main concept means. We then need to do a basic CALP vocabulary analysis (subcategory 3A) for students to handle the fundamental terms which would help them understand more complicated theories arising from them.

Additionally, the way L2 is integrated in the CLIL classroom should also be observed (subcategory 3B). We understand L2 integration is correctly done when it is used in full phases avoiding the use of L1. That is to say, when translation occurs as a way to help understanding in L2, we consider that L2 is not appropriately integrated. L2 should be incorporated in complete phases, containing complete activities or parts of the lesson, such as the introduction or conclusion of a lesson. We do not believe that translating from L1 helps the immersion in L2 which should take place in a bilingual program at university. Therefore, in the cases in which translation is used, we believe that L2 integration is not appropriate.

As with basic CALP vocabulary, the analysis of lower-level concepts, even pre-university concepts, needs to be considered in bilingual university teaching. As we see in subcategory 3C, there are tasks which our students have carried out only through the use of L1 and that they may not know how to perform in L2. An example of this could be an advanced physics lesson, in which students have to do complex mathematical calculations. If they have not previously expressed a simple multiplication in L2, they will hardly know how to express more complex calculations in L2, so it might be essential to devote some part of the lesson to the expression of lower level processes in L2 in order to work with more elaborate processes subsequently.

Evaluation

Subcategories:
- 4A. There are techniques for the teachers to measure the success of the students in the lesson.
- 4B. There are techniques for the students to measure their own success in the lesson.

Every lesson planning ought to contain some formula for evaluating its effectiveness. In our direct observation of original CLIL lessons, we examined if there were measurement techniques for the teacher to assess the success of the students in the lesson (subcategory 4A) and if there were measurement techniques for students to assess their own progress throughout the lesson (subcategory 4B). In both cases, the measurement

formulas are understood as rubrics or questionnaires in which the development of the student in the sequence is visualized.

CLIL-ProfiTs' L2 skills

Subcategories:
- 5A. Writing
- 5B. Speaking

The last item to comment on in the present paper is the one related to the FL level CLIL-ProfiTs have. Our work must cover the study of the language competence since CLIL is carried out through a FL and its integration with the content is the main axis of this type of teaching. Our objective went beyond a mere report exposing whether teachers handled a sufficiently high CEFR level. Given that the focus of this study aimed to be eminently practical in terms of CLIL teaching techniques, we decided to highlight those linguistic deficiencies hindering the teaching-learning process.

It needs to be mentioned that in most lessons observed, lecturing prevailed in a striking way against student-teacher interaction. That was the reason why our study concentrated on (teachers') language production, both written and spoken, rather than comprehension.

- Difficulties in written production: In this subcategory (5A) we studied if the teacher managed to communicate correctly with the students through the written didactic materials that s/he brought to class and whether this enabled or hindered the optimal development of the lesson.
- Difficulties in spoken production: Similarly, to what was done in the analysis of the written language, examining the CLIL-ProfiTs' FL speaking skills was essential in order to identify if communication between teacher and student flowed smoothly.

2 Research Methods

Sampling

For the analysis of the 68 CLIL lessons we selected units elaborated between 2010 and 2014 within the context of 17 training activities, always choosing four units per activity. Therefore, we had a sample of n = 68 after selecting examples of a finite population N = 210 approx. This value of an approximate number of 210 CLIL lessons is taken from the average of 12.3 units per course, bearing in mind the number of lessons designed in each CLILUT course ranged from 5 up to 20. That means that from a total number of approximately 210 lessons, we selected no more than 4 per course, making a total of 68 CLIL lessons.

It is important to add that from the CLIL Teacher Training Program at UGR, we selected four CLIL lessons that we added to the total of 64 CLIL lessons designed by UCA CLIL-ProfiTs, so as to have a total of 68 CLIL lessons that would make up a considerable sample for our data analysis.

Procedure

Before focusing on the methodology of our study, it is essential to point out what we considered a "CLIL lesson" for the selection of our sample. With this term we are making reference to any didactic proposal that has a specific beginning and purpose. It can either be used for a complete didactic unit, or for a face-to-face session of approximately two hours, or even for a specific phase of the foresaid face-to-face session. In short, in our data analysis we observed 68 didactic sequences for bilingual teaching that may have been planned for complete teaching units as well as small sections of them. For example, a CLIL lesson for the area of Analytical Chemistry could be designed to cover both a complete teaching unit under the name of "Nanotechnology" that includes three face-to-face sessions of two hours each, as well as three hours of individual work guided with the help of the virtual platform. But we could also analyze CLIL sequences only including, for example, the concluding phase of the didactic unit that could be planned for the last classroom session of the didactic unit under the name of "Applications of gold nanoparticles". It is also important to mention that we considered CLIL lessons designed for the delivery of theory as well as practice sessions.

For the development of the Direct Observation analysis, a thorough selection of the original CLIL lessons corresponding to a sufficiently significant number of departments and areas of knowledge was carried out. In fact, the 68 selected CLIL lessons were designed by CLIL-ProfiTs belonging to 20 different departments covering a total of 63 areas of knowledge.

Table 1. Departments and areas of knowledge involved

No.	Department which the author of the sequence belongs to	Dept. Code	Areas of knowledge of the Council of University Coordination that contemplates the department	
1	Biomedicine, Biotechnology and Public Health	C125	1	Biochemistry and Molecular Biology
			2	Physiology
			3	Genetics
			4	Immunology
			5	Preventive Medicine and Public Health
			6	Microbiology
			7	Nutrition and Bromatology
2	International Public, Criminal and Procedural Law	C141	8	International Public Law and International Relations
			9	Criminal Law
			10	Procedural Law
3	Private Law	C107	11	Civil Law
			12	Private International Law
			13	Roman Law
4	Basic Legal Disciplines	C108	14	Political and Administration Sciences
			15	Constitutional Law
			16	State Ecclesiastical Law
			19	History of Law and Institutions
5	Psychology	C131	20	Behavioral Sciences Methodology
			21	Personality, Evaluation and Psychological Treatment
			22	Psychobiology
			23	Basic Psychology
			24	Evolutionary and Educational Psychology
			25	Social Psychology
			26	Religion
6	Didactics	C133	27	Didactics and School Organization
			28	Didactics of Experimental Sciences
			29	Didactics of Social Sciences
			30	Didactics of Mathematics
			31	Research Methods and Diagnosis in Education
7	Didactics of Physical, Plastic and Musical Education	C132	32	Drawing
			33	Didactics of Body Expression
			34	Didactics of Musical Expression
			35	Didactics of Plastic Expression
			36	Physical and Sports Education
			37	Music
8	Operational Research and Statistics	C146	38	Operational Research and Statistics
9	Applied Physics	C142	39	Applied Physics

10	Biology	C138	40	Zoology
			41	Ecology
			42	Botany
11	Analytical Chemistry	C126	43	Analytical Chemistry
12	Physical Chemistry	C127	44	Physical Chemistry
13	General Economics	C110	45	Social Anthropology
			46	Applied Economics
			47	History and Economic Institutions
			48	Sociology
14	Business Organization	C139	49	Business Organization
15	Financial Economics and Accounting	C150	50	Financial Economics and Accounting
16	Engineering in Automation, Electronics, Architecture and Computer Networks	C140	51	Architecture and Computer Technology
			52	Electronics
			53	Systems and Automation Engineering
			54	Electronics Technology
17	Computer Engineering	C137	55	Computer Science and Artificial Intelligence
			56	Computer Languages and Operating System
			57	Signal Theory and Communications
18	Anatomic Pathology, Cell Biology, Histology, History of Science, Legal and Forensic Medicine and Toxicology	C102	58	Anatomic Pathology
			59	Cell Biology
			60	Histology
			61	History of Science
			62	Legal and Forensic Medicine
			63	Toxicology
19	Didactics of Mathematics	B023	30	Didactics of Mathematics
20	Evolutionary and Educational Psychology	B063	24	Evolutionary and Educational Psychology
Total				
20			63	

After the selection of the CLIL trial lessons and during phase 2 of the CLILUT courses (see Figure 1), the ESP teacher and CLIL teacher trainer used a rubric so as to examine in detail the items to be analyzed. These five items are defined in section 3.3. Apart from doing this analysis individually while the trial lesson was being held, the CLIL teacher trainer also devoted some time in class to peer group debate, so as to analyze the reactions of all participants in the CLILUT course.

3 Results and Discussion

By means of the in-class direct observation analysis we are presenting in this paper, we have tried to examine the specific environment that can be found in bilingual education at university. Once the different items studied are commented regarding the results obtained, we will identify the detected problems and difficulties which prevent an optimal implementation of CLIL at university.

3.1   Input

In this section we observed that 85% of the sequences seemed to be based on real input. However, we detected that a similar percentage of sequences showed that the input offered was not appropriate for the final objective of the lesson (see Figure 2).
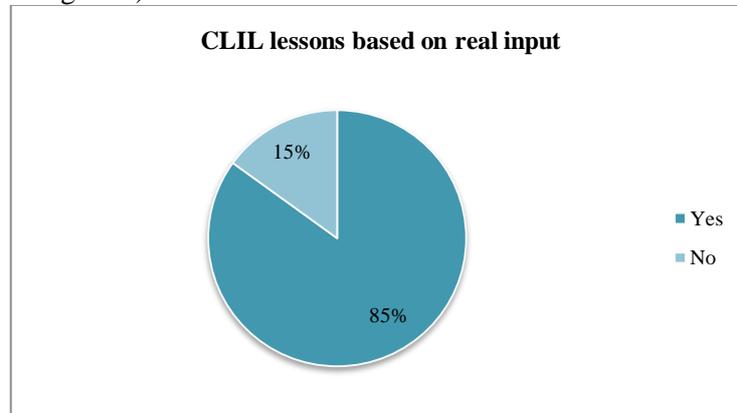

CLIL lessons based on real input

- Yes
- No

15%

85%

Figure 2: Input

3.2   Levelling and integration

Regarding levelling and integration, we can conclude that almost 40% of sequences included students' tasks. These 40% were divided into 30% and 10%, the first percentage being that of teachers who presented appropriate tasks for the students' level of English (see Figure 3).
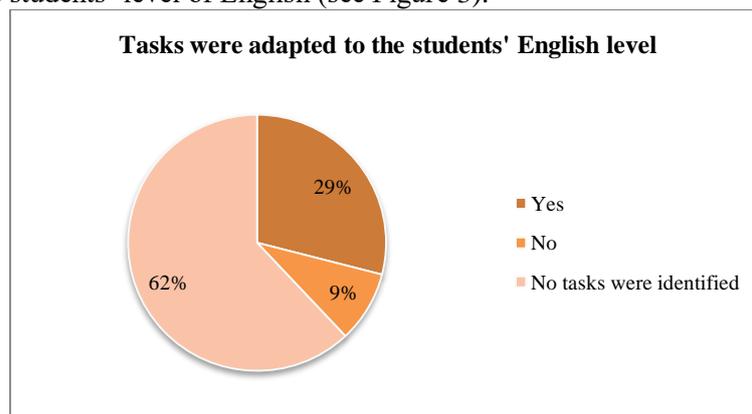

Tasks were adapted to the students' English level

- Yes
- No
- No tasks were identified

29%

9%

62%

Figure 3: Levelling and integration

3.3   Linguistic features derived from the use of L2

The results obtained in this section are the following: First of all, only 40% of the sequences included a basic CALP vocabulary analysis (see Figure 4). Moreover, in 47% of the sequences we found a need for analysis of lower level concepts (see Figure 5).
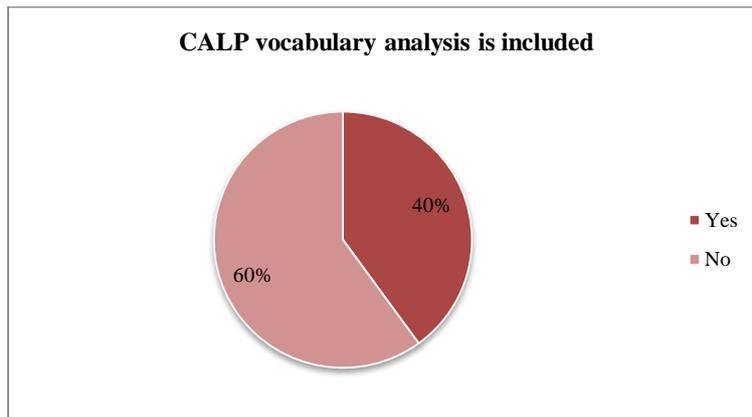
CALP vocabulary analysis is included

Figure 4: CALP vocabulary analysis

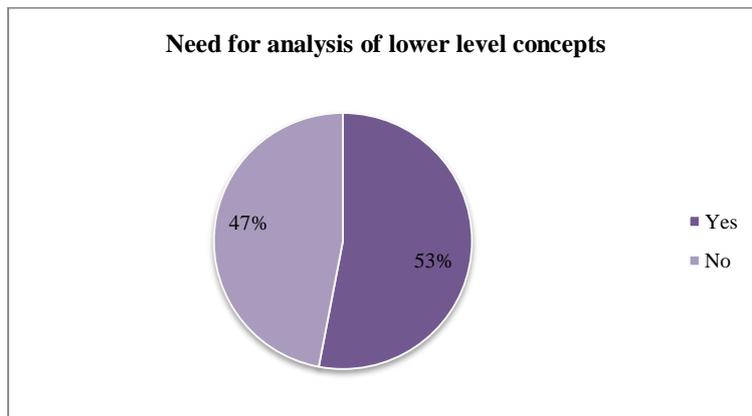**Need for analysis of lower level concepts**

Figure 5: Lower level concepts analysed

3.4 Evaluation

According to our findings in this section, 65% of the CLIL lessons lacked measuring elements so that students and teachers could assess the success of the teaching-learning process concepts (see Figure 6).
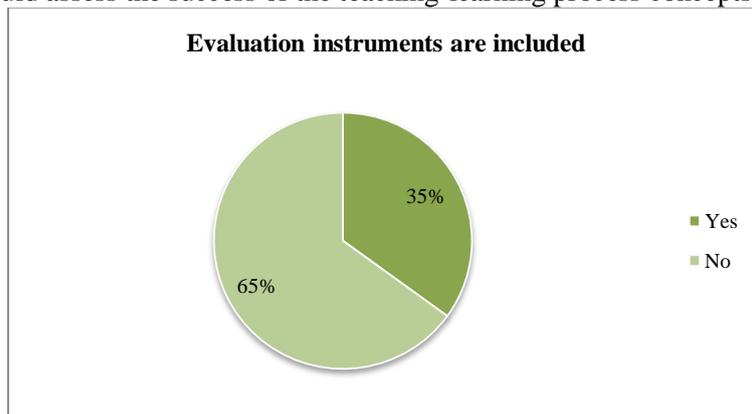
Evaluation instruments are included

Figure 6: Evaluation

3.5 CLIL-ProfiTs' L2 skills

Analysing the data collected, we can conclude that there is a large majority, which exceeds 80% of sequences, whose level of written production is equal or higher than B2 (as can be seen in the didactic materials used). Only 16% of the cases demonstrate a command of the written language equal to or less than B1 (see Figure 7).
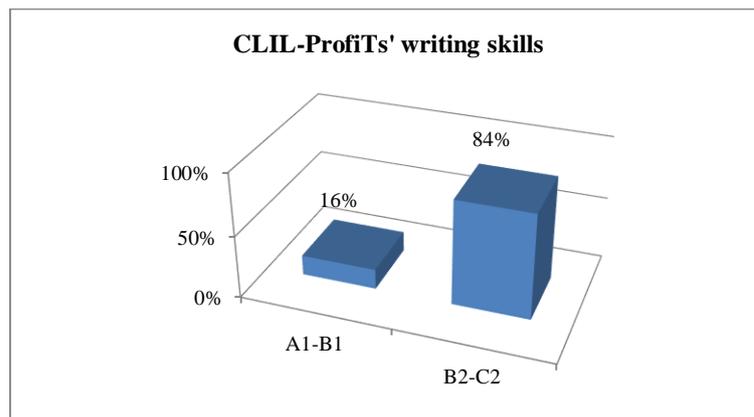
CLIL-ProfiTs' writing skills

Figure 7: Writing skills shown

In the case of oral production, the percentages change radically compared to the data obtained in the analysis of writing skills. In more than 60% of the CLIL sequences analysed, the language level shown is equal to or lower than B1. On the contrary, the percentage of sequences in which English is mastered with a B2 or higher (relating to the Common European Framework of Reference for Languages, CEFR) does not reach 40% (see Figure 8).
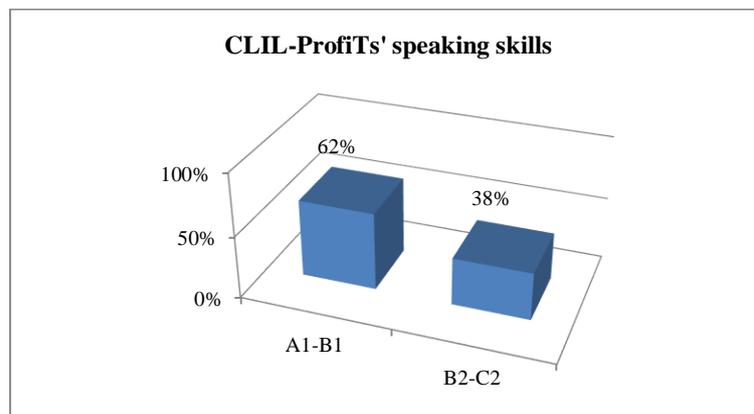
CLIL-ProfiTs' speaking skills

Figure 8: Speaking skills shown

Prior to considering the results obtained, we need to mention the difficulties encountered in this analysis, which gave rise to certain biases that hindered the reliability of our study method.

The most important bias identified is related to the selection of the didactic sequences that were part of our final sample. In order to examine a specific number of sequences per training activity, we decided to establish a fixed set of lessons to evaluate in our analysis. That way, by selecting four sequences per training course, we could balance the study of the sequences in relation to the training activity from which they were extracted. However, the number of didactic sequences that were put into practice in these activities went from 5 to 20. That is, for each group of sequences we decided not to study at least one of the remaining sequences. This leads to a high attrition rate close to 144 didactic sequences which did not participate in the final sample.

3.6 *Classification of problems present in the CLIL classroom*

As said at the very beginning of this paper, current teaching practices in bilingual education at university needed a deeper analysis so as to find out the problems teachers could face in class. Once our observations have been done, we can conclude that there are several problems detected in the university CLIL classroom after our direct observation. At this point, it is crucial to bear in mind the reflections that had recently been made in relation to the training of CLIL teachers. An example of this is what Toledo, Rubio and Hermosín (2012:226) conclude in their article, stating that specific CLIL teacher training must be improved, so as to support the deepening in their language learning as well as help them develop their affective skills (motivations, interests

and needs).

Particularly, according to our data observation, we found four types of problems CLIL-ProfiTs face in their process of starting to teach through a FL and which need to be tackled in all CLILUT courses. These are difficulties related to:

- Didactic planning;
- in-class L2 integration;
- students' and teacher's roles in the classroom;
- teaching resources.

It is significant to mention that these four types of problems derived not only from the five language-related items to consider in the present paper (that is to say 1: input; 2: levelling and integration; 3: linguistic features derived from the use of L2: evaluation and; 5: CLIL-ProfiTs´ L2 skills), but with the total of 11 items examined in our rubrics.

As can be seen, CLIL-ProfiTs' difficulties start to arise from the very beginning of the preparation of the didactic sequence, comprising the whole teaching process, including what takes place within the classroom. This means that if those difficulties are identified previous to the moment in which new CLIL-ProfiTs teach in the actual classroom, their process of becoming experienced CLIL teachers could be less troubling, however still challenging. This would definitely be facilitated by providing ambitious CLILUT training schemes covering the previously mentioned thematic areas. In this context, ESP teachers, being aware of the difficulties of speaking FLs in academic contexts and enjoying a FL teaching background, can offer CLIL-ProfiTs, and therefore bilingual programs' stakeholders, the needed knowledge and experience which can enrich and facilitate CLIL teaching at university.

3.7 CLILUT training schemes – systematizing CLIL teacher training at university

This work was additionally aimed at designing and analyzing CLIL training for University Teachers, thence, it is also worth concluding that, there is a general agreement towards the need to offer training to help the teachers' adaptation and systematization of their teaching techniques in CLIL. In fact, it is true that gradually more and more effective formulas of specific training in CLIL are being established in universities (particularly speaking about Spain). We can already find postgraduate courses such as the Free Distance University (UNED) named "Elaboration and Digitalization of CLIL Materials", as well as complete modules within the teaching of a Master such as the one offered by the University of Córdoba ("Integrated teaching of language and contents"), or even others of a general nature such as the "AICLE/CLIL Methodology Course" directed and coordinated by the Educational Innovation and Teacher Training Service of La Rioja General Directorate of Educational Planning and Innovation.

This shows a relentless concern for the desire to properly train teachers who will participate in CLIL experiences. However, the method to carry out such training is not yet established in a sufficiently consensual and rigorous manner. It is necessary to adopt measures to be developed throughout the university environment. In the same way that a series of conditions are established for the selection of the teaching staff in general, it will be necessary to consider the possibility of demanding a specific training from the future university professor immersed in CLIL programs. For this, it would be interesting to start a debate on which formula is the most suitable, either through Bachelor subjects, Postgraduate courses, specific official Masters, or modules that are part of certain Masters. Regardless of the formula selected, it would be convenient to set a specific work procedure so that the CLIL teaching does not depend entirely on a posteriori and internal training to each faculty.

Based on the results of our study, CLILUT training schemes must take into consideration basic principles and implications of implementing the CLIL philosophy in higher education. Particularly, the following considerations are to be taken into account:

1. The importance of the spoken language in CLIL teaching
2. CLIL student's role
3. Teamwork as a key issue in CLIL tasks
4. Using ITs in CLIL
5. Attention to diversity
6. Scaffolding design

3.7.1 The importance of the spoken language in CLIL teaching

All teachers who participate in this type of training must always bear in mind the value of language skills as an instrument for the analysis and mastery of specific contents of the subject matter. Students will not be able to understand all the concepts in their totality, nor will they be able to generate their own hypotheses about it if they do not properly develop the language skills that enable them to do so. For this, CLIL-ProfiTs will have to adapt the input offered to their students, and demand from them a continuous generation of output. This way, we will constantly verify their level of understanding, as well as the capacities to articulate this understanding. Under these circumstances, spoken language becomes a fundamental element of the teaching-learning process (Casal, 2007:61), leaving the written language for a later phase and more individual work of the student. In this context, it will be very useful to acquire different teaching strategies, such as repetition, memorization, simplification and activation of previous knowledge, which will help the student in the execution of their tasks.

Still, as we observed in figures 8 and 9, CLIL-ProfiTs' L2 performance was higher regarding writing skills than in speaking skills, what definitely hindered communication in the CLIL trial lessons provided. It might therefore be necessary to focus on oral communication in CLIL teacher training in our context.

3.7.2 CLIL student's role

Student-centered teaching techniques (Richards & Rodgers, 2014:106) are energetically fostered in CLIL. CLIL-ProfiTs are then asked to act as a guide or moderator of the process so as to foster learner's autonomy (Bocanegra & Haidl, 1999:8). We must always bear in mind that the heterogeneity of types of students with dissimilar cognitive characteristics will be added to the relative disparity of their levels of linguistic competence. For a correct design of CLIL teaching, CLIL-ProfiTs must carry out a constant negotiation with the students which could promote the interaction between the students and, additionally, between the students and the teacher.

As it was perceived in the results of our analysis of the levelling and integration processes included in the CLIL trial lessons studied in more than a 60% of the cases no tasks to be carried out by the students were identified. So, it was than not possible for the CLIL trainer to evaluate whether tasks were adapted or not to the different language levels existing in class. In fact, most lessons also lacked assessment measures so as to check students' progress along the class. This environment describes the absence of student-centeredness in the CLIL trial lessons studied. CLILUT courses should then avoid fronting and lecturing teaching perspectives so as to foster student's actual production in the FL.

3.7.3 Teamwork as a key issue in CLIL tasks

The ability to work as a team offers students an essential tool for their personal relationships with their peers, as well as for their future professional expectations. Collaboration among students must also be promoted (Krueger & Ryan, 1993:96) so that the learning process occurs when communication takes place between peers without the need for teacher supervision.

Apart from making the student play an active and principal role in class, peer-assessment should be promoted as to avoid teachers correcting students but still having other forms of evaluation in class (see figure 7). Teamwork is definitely a key issue to be covered in CLIL teacher training schemes as it allows for an enriching learning atmosphere which encourages the student to practice and improve their FL skills without the fear of being corrected.

3.7.4 Using ITs in CLIL

At present it is essential to modernize and update the resources to be used in our didactic approach. All those resources that imply an advance in the teaching-learning processes and that, besides, promote the motivation of the students, have to be incorporated into the teaching practice. Given that in CLIL teaching the development of the four basic language skills must be encouraged according to the CEFR, computer resources favor the dedication of individual tasks to the development of preferably receptive and written skills. This will help CLIL-ProfiTs to take advantage of the hours of linguistic immersion within the classroom so as to work preferably with productive as well as oral skills.

In particular, the use of ITs can help the improvable aspects identified in section 4.3 as CALP vocabulary does not seem to be sufficiently analyzed and basic CALP vocabulary appears to be lacking. CLILUT courses need to focus on the technological resources professors have at their disposal so as to help their students enrich their knowledge of academic terminology.

3.7.5 Attention to diversity

The invigoration of the classroom through the use of multiple methodological techniques in the classroom is essential to serve all students despite the heterogeneity characteristic of all groups of students. An idea that worries many university teachers is precisely the inability to serve all their students. However, the CLIL-ProfiTs cannot remain static, broadening the limitations present to his didactic approach. CLIL-ProfiTs have to go beyond this type of limitations by proposing dynamic work in the classroom which would allow students to progress starting from different previous knowledge levels of language competence in the L2, types of intelligence, learning styles, etc. This leads to the invalidation of those didactic designs in which frontal, unidirectional and lecturing-like teaching prevails, giving way to a teaching in which continuous communication with the student predominates so as to verify the assimilation of concepts as well as the ability to put them into practice.

As it was shown in section 4.1 the input offered to students was mostly real, and this is precisely one of the most beneficial characteristics of CLIL teaching as regards language proficiency. FL teaching in Spain has been deeply criticized for many years and one of the possible causes of its ineffectiveness could be rooted in the lack of real input offered to students. The more authentic the FL learning context is the more possibilities we have to encounter different language levels. CLILUT courses need then to devote time to coping with diversity in FL proficiency.

3.7.6 Scaffolding design

In order to carry out a model of teaching based on the student, it is necessary that we bear in mind the construction of cognitive structures helping them to develop an increasingly autonomous and mature learning.

There are numerous authors who have adopted different perspectives around this topic. Experts such as Greening (1998), McKenzie (1999) or McLoughlin and Marshall (2000) focus on scaffolding as a support system that is facilitated to the student (either by the teacher, himself or his classmates) for the development of their learning. However, Bárcena and Read (2004:47) make an analysis in which they highlight the benefits of scaffolding not so much for the period in which it is built and serves as support for the student, but rather for the moment in which it disappears, guaranteeing the continuity in the evolution of their learning. A proper construction of the scaffolding is essential to avoid frustration or demotivation of students, for which the teacher will have to design certain techniques that originate their construction.

The construction of language scaffolding can therefore be considered an evaluation measure (see figure 7) implemented as a way to examine the progress of students learning, which might be thought as a must in CLIL teacher training. This is not meant to imply that CLIL-ProfiTs are new FL teachers, but they need to become co-responsible for the student FL progress. In so doing, language scaffolding design needs to be studied and practiced.

4 Conclusions

A systematization of CLILUT training schemes is a must in the present context in which CLIL teaching in higher education is rapidly spreading. In addition, the systematization of CLIL techniques at university is highly recommended. This would definitely enrich the implementation of bilingual programs, principally by tackling specific foreign language-related problems they may face.

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