Table of Contents

Managing the translation workflow with a Computer Assisted Translation Tool: SDL Trados 2011

Laura Ramírez Polo 161-174

From the Editors

CLIL AT UNIVERSITY: RESEARCH AND DEVELOPMENTS

In recent times, the relevance of CLIL (*Content and Language Integrated Learning*) at most educational levels, especially in the university world, has experienced an exponential increase, as recent publications show (Doiz et al. 2013, Fortanet-Gómez 2013, Llinares et al. 2012, or Smit and Dafouz 2012a, among others). Teaching in English seems to be a popular topic nowadays, but it is also a need. The articles included in this issue show three main common features of CLIL and its role in today's higher education: the process of internationalization of the educational system, the need for a language policy, and the fact that English for Specific Purposes (ESP) as a field of research and teaching as well as ESP practitioners are all very much concerned with CLIL.

The internationalization of the university is one of the reasons pointed out by much of the research conducted on the topic, as can be seen in the present volume. Becoming an international university requires attracting foreign students and this can only be implemented by using a *lingua franca* for communication; this is the case of the English language, though any other language should also have the same opportunity.

A second issue which seems to be closely connected to the integration of English as the language of instruction is the need to develop a university language policy. Apparently, this seems to be already happening in most universities, but CLIL appears to have been implemented in the Spanish university before such a policy is established.

A third interesting common key issue which can also be appreciated in the following articles is that applied linguists and ESP (English for Specific Purposes) practitioners are especially concerned with the teaching of content subjects in English as well as in the teacher training of content teachers. Through the following articles, an explicit connection between CLIL and ESP (in any of its variants) seems to be clear.

DOI: http://dx.doi.org/10.6035/LanguageV.2013.5.1

As a whole, this issue on *CLIL at University* tries to provide more insights on the topic and become a contribution to the field, which is in continuous evolution and development. The term CLIL is understood as a synonym for EMI (*English as the Medium of Instruction*) all through this issue, although our deciding on the first one was because it is probably the most widely used term among teachers regardless of the educational level they belong to. Nonetheless, we do admit that the term which is becoming more popular in Higher Education settings is EMI (see Smit and Dafouz 2012b: 4-5 for further terminological considerations), and that is the reason why we have accepted both terms in the research articles included in this issue, respecting each author's decision.

As Dafouz Milne and Sánchez García say in their article (2013: 130), there is a "diversity of interests and concerns amongst scholars and practising teachers […] from studies on classroom discourse and school practices, teacher cognition and beliefs, to the role of English as an international language or lingua franca in multilingual institutions". This is shown in this fifth issue of *Language Value*. The six articles included deal with beliefs and concerns that CLIL teachers and practitioners have, as well as collaboration between language and content teachers, or the analysis of some specific aspects of the language used in the classroom.

The first article, written by **González and Barbero**, makes a thought-provoking proposal of ideas Higher Education teachers should bear in mind in order to implement a CLIL programme. Their proposal is based on a research project developed with pre-university teachers who had wide experience in CLIL settings and, therefore, in CLIL pedagogical features.

In the second article, **González Ardeo** deals with a common question many ESP practitioners have frequently considered. Through an exploratory study carried out at the University of the Basque Country, he tries to explain whether CLIL and ESP are compatible or not. Although the study focuses only on engineering degrees, it can be taken into consideration for further research in order to prove the possible compatibility of both teaching models.

DOI: http://dx.doi.org/10.6035/LanguageV.2013.5.1

Following an ESP perspective, **Argüelles Álvarez** presents a holistic experience in Telecommunication Engineering degrees. She shows how initially conceptualized ESP courses have been moved into a course integrating not only language and (professional and academic) content, but also other skills and capacities, such as IT literacy and the development of the learner's autonomy.

Teacher education is the focus of **Sancho Guinda**'s contribution. She moves into teacher training and how CLIL teachers face it. By analysing engineering teachers' perceptions and their performances, she shows the mismatch that exists between what teachers believe and know and what they actually do in their own teaching. Sancho Guinda concludes by proposing a *teacher-target* model which makes the reader aware of the different discourses involved in a CLIL setting, complemented by the recommendation to CLIL teachers to prepare their classes from a didactic and a linguistic standpoint.

Also dealing with teachers' perception and the experience of CLIL teachers, **Wozniak** presents a study carried out within the context of a Pharmacy degree. She identifies the impressions, expectations, concerns and needs of more and less experienced content teachers in the degree in Pharmacy. In her article, Wozniak proposes a close and continuous collaboration between content teachers and language teachers as a complement to the teacher training implemented in many universities.

Finally, **Dafouz Milne and Sánchez García** focus on a different 'macro research concern', as they call it, which is teacher discourse. In fact, considering that interaction is one of the promoted aims of CLIL, dealing with questions in the CLIL classroom is an essential tool. They analyse some lectures from different disciplines and look at the kind of questions used, their discourse functions, if there are differences between disciplines and how those questions promote students' participation. Their main objective is to raise awareness of teachers' questions in EMI settings.

This issue finishes with a couple of reviews of books related to CLIL and a multimedia material review on a tool for translators. The first review of *Multilingual Higher Education. Beyond English Medium Orientations* by **Ana Bocanegra-Valle** shows how that volume can illustrate the intricacies of learning and teaching in multilingual Higher

DOI: http://dx.doi.org/10.6035/LanguageV.2013.5.1

Education settings. **Simone Smala**, the author of the second review, *CLIL in Higher Education. Towards a Multilingual Language Policy*, highlights the excellent contribution to the field made by this book and its suggestions for further research areas. Finally, **Laura Ramírez Polo** goes over one of the most widespread tools for professional translators, *SDL Trados Studio 2011*. She focuses on its use within the world of translation throughout the whole translation process, and provides some alternatives to this tool and adds some final suggestions for teaching purposes.

Miguel F. Ruiz-Garrido
Mª Carmen Campoy-Cubillo
Editors
Universitat Jaume I, Spain

References

Doiz, A., Lasagabaster, D. and Sierra, J.M. 2013. *English-Medium Instruction at Universities. Global Challenges*. Bristol: Multilingual Matters.

Fortanet-Gómez, I. 2013. *CLIL in Higher Education. Towards a Multilingual Language Policy*. Bristol: Multilingual Matters.

Llinares, A. Morton, T. and Whittaker, R. 2012. *The Roles of Language in CLIL*. Cambridge: Cambridge University Press.

Smit, U. and Dafouz, E. (Eds.) 2012a. *Integrating Content and Language in Higher Education. Gaining Insights into English-Medium Instruction at European Universities. Special Issue of AILA Review* 25.

Smit, U. and Dafouz, E. 2012b. "Integrating content and language in higher education. An introduction to English-medium policies, conceptual issues and research practices across Europe". In Smit, U. and E. Dafouz (Eds.) *Integrating Content and Language in Higher Education. Gaining Insights into English-Medium Instruction at European Universities. Special Issue of AILA Review* 25, 1-12.

DOI: http://dx.doi.org/10.6035/LanguageV.2013.5.1

Language Value December 2013, Volume 5, Number 1 pp. 1-23
http://www.e-revistes.uji.es/languagevalue ISSN 1989-7103

Building bridges between different levels of education: Methodological proposals for CLIL at university

Jesús Ángel González
jesusangel.gonzalez@unican.es
Javier Barbero
javier.barbero@unican.es
Universidad de Cantabria, Spain

ABSTRACT

This article describes a research project carried out at the University of Cantabria, Spain. Having identified a lack of communication between different levels of the education system, the co-authors have carried out qualitative research ("long interviews" with Primary and Secondary CLIL teachers) in order to identify the best methodological guidelines to be followed in CLIL classes. These guidelines have been summarized in a CLIL-methodology Decalogue to be used at the Tertiary Level.

Keywords*: CLIL, university, methodology, guidelines, scaffolding, student-centred*

I. INTRODUCTION

Although much has been written about the benefits of CLIL in Primary and Secondary Education (for example, Muñoz 2007, Dalton-Puffer 2007, Lasagabaster and Sierra 2009, Liubinienè 2009 or Vártuki 2010), there are not so many documented experiences of CLIL at the Tertiary Level (with the notable exceptions of Wilkinson 2004, Wilkinson and Zegers 2007, 2008, Fernández 2009, or Costa and Coleman 2010). Paradoxically, due to "the growth of student mobility and the evolving epistemology of university disciplines in a globalising academy" (Costa and Coleman 2010), more and more universities across Europe are teaching courses and even whole degrees in a second language, almost always English. However, university lecturers do not seem to take advantage of CLIL research and experiences from other levels of education, probably because, as Costa and Coleman state, ICLHE (Integrating Content and Language in Higher Education, as CLIL at university is often referred to) "typically represents a top-down approach, an institutional initiative dictated by the strategic need for internationalization" (2010: 20), and one that does not take into account CLIL at other levels. This article describes an action-research project intended to create a bridge

DOI: http://dx.doi.org/10.6035/LanguageV.2013.4.2

between different levels of education, in order to try to incorporate the best methodological practices from other educational contexts into University, and use CLIL as a "catalyst for change" (Marsh and Frigols 2007) towards a student-centred teaching methodology.

II. BACKGROUND

Like many other areas in Europe, Cantabria, a small region on the Northern Spanish coast, has embraced CLIL enthusiastically in compulsory levels of education. The first bilingual programme was put into practice thanks to an official agreement between the Regional Education Authority, the National Education Authority and the British Council back in 1996. In the following years, dozens of bilingual programmes were implemented by the Regional Education Authority with the participation of a remarkable number of teachers. Currently, we have 54 bilingual schools with a total of 57 bilingual programmes in English, French and German.

The University of Cantabria is a young, dynamic public institution with an increasing European and international dimension. In order to enhance its level of internationalization, in 2008 it decided to demand of its new graduates an advanced command of English (B2 level according to the Common European Framework for Languages) by the end of their studies. In order to demonstrate this level of English, students may either submit an official certificate issued by an external institution or pass a proficiency exam organized by the University. Following the European Union's recommendations about plurilingualism, the University also decided that students could fulfil this language requirement by demonstrating a B1 level in English and a B1 command in another European language. Students can also fulfil the University's language requirement with a B1 in English if they complete 30 credits in an exchange programme carried out in a foreign language or if they obtain one of the Diplomas in English offered by the University.

In order to enable students to reach those levels and to guarantee their acquisition, the Language Policy Division of the University (*Área de Capacitación Lingüística*) designed a Language Policy Plan (*Plan de Capacitación Lingüística*) which included measures such as the following:

- Organization of proficiency exams to certify the language levels described above. The exams follow the general recommendations of the European Association of Language Testers (EALTA) and test the students' competence in the following skills: reading comprehension, listening comprehension, writing, and speaking production and interaction. Students need to achieve a pass mark in all the different sections of the exams, which are held twice a year. The exams are designed and organized by the Vicerectorate for Internationalization and the testers are English language teachers from the University's Language Centre and the Department of Philology, who follow the Council of Europe's guidelines and use samples provided in projects like CEFTRAIN (Common European Framework of Reference for Languages in Teacher Training) and the DVD "Spoken performances illustrating the 6 levels of the *Common European Framework of Reference for Languages*" (2013).
- Introduction of an English compulsory core subject during the first or second year of all the BA/BSc degrees.
- Introduction of English as a second language of instruction throughout all the degrees, making sure that all the undergraduate degrees offer as many subjects taught in English as possible. Students had to follow at least a 6-ECTS course taught in English in order to achieve the language requirement.

Although a B2 in English at the end of undergraduate studies might be considered a rather conservative requirement, it is certainly a very demanding goal within the context of Spanish Higher Education. The level of English obtained by most students at the end of their secondary education is unfortunately very far from what should be expected. According to the *First European Survey on Language Competences* of the European Commission, carried out in 2011 (Surveylang 2012), the levels of Spanish students in their last year of compulsory education (16-year-old students) are as follows:

Table 1. Percentage of pupils at each level (global average of the 3 skills).

Pre A1	A1	A2	B1	B2
22	35	16	14	13

As we can see, only around one quarter of the students are able to show an independent level (B1 or B2) in English by the end of their compulsory education. We also need to

remember that this survey only tested Reading Comprehension, Listening Comprehension and Writing; it did not test the students' competence in Spoken Production and Interaction, presumably the least practised of the skills. If we compare this with the European average by skills (Table 2), we can see how Spanish students perform between 12 (Reading Comprehension) and 21 (Listening Comprehension) points lower than the European average:

Table 2. Percentage of pupils at broad levels by skill.

	Reading			Listening			Writing		
	Pre A1	A	B	Pre A1	A	B	Pre A1	A	B
Spain	18	53	**29**	32	44	**24**	15	58	**27**
European Average*	14	45	**41**	17	38	**45**	11	49	**40**

*First Foreign Language, always English except Flemish Community of Belgium and UK England (French)

These results are particularly shocking if we take into account the number of hours of instruction that Spanish students receive in their 10 years of compulsory education (960 hours, according to Gozalo 2011: 2).

One could think that in the next two non-compulsory years of *Bachillerato*, the results would improve, particularly if we consider the generally very positive results of the Access to University Exams in Spain: as an example, 80.5% of the students passed the English Language section of the exam organized by the University of Cantabria in June 2012. This exam does not use the Common European Framework as a reference, but the specifications seem to be referring to a level easily identifiable as B1. For example, the two main objectives of the two-year *Bachillerato* are to "use oral English with enough fluency and clarity to get by in daily situations", and to "use written English with coherence, clarity, and lexical and grammatical accuracy to produce simple texts of different types". However, the exam only tests Reading Comprehension, based on a 250-word text, and Writing, based on a 120-150-word text.

Despite the 80.5% of pass marks in the exam, the real level of English that students bring to the university's classrooms is far from this picture of success: based on the B1/B2 certificates provided by the students, as well as their performance both in our proficiency exams (all skills considered) and in the placement tests (multiple-choice exam testing grammar, vocabulary, reading and listening comprehension) administered

in their compulsory English subject, more than half of the students (54%) have not reached the independent level:

Table 3. Percentage of students achieving CEF levels. 2012-2013 University of Cantabria's first-year students (except 5 degrees, 2nd year). Percentage based on certificates provided by students and their performance in the University's proficiency exams and placement tests.

A1	A2	B1	B2	C1	C2
7.08	47.16	22.95	21.56	1.12	0.13

It is obvious that this level of English (and we fear that if the placement test had included a Speaking section the percentage of students with a B level would have decreased) is an important challenge not only for students who need to reach a B2 level by the end of their four-year studies, but also for university lecturers willing to teach their subjects in English.

Once the evidence of the students' level of English became available, the Language Policy Division of the Vicerectorate of Internationalization decided to take a number of measures to make it easier for students with a lower level to fulfil the linguistic requirement. On the one hand, the University decided to accept temporarily (at least until the Access to University Exam includes a skills-based English exam, with an expected positive washback effect in the students' instruction) a B1 level in English as long as the students showed evidence of additional instruction in English (at least 12 credits). On the other hand, the University set up and developed an Internet English Resource Centre (http://www.unican.es/Vicerrectorados/vinternacionales/recursos.htm) where students can practise and improve their English skills on-line, and it also increased the offer of extracurricular English courses for the students.

But if the students' level of English is an important handicap, a second problem might lie on the other side of the desk: are our university lecturers qualified to teach their subjects in English? From the point of view of their linguistic proficiency, the University of Cantabria decided that the lecturers willing to teach their subjects in English needed to have a C1 level in that language. The system designed to demonstrate this level was either to provide an official certificate issued by an external institution or to take part in an internal process made up of two stages: the completion of a Linguistic Self-Report and participation in an interview with two English professors from the

Department of Philology. The Linguistic Self-Report is based on the Europass Language Passport and includes a self-assessment of language skills, as well as a section for English language diplomas or certificates, and a list of linguistic experiences, including previous teaching experience in English and research stays. The results of this process have actually been very encouraging: at the time of writing, as many as 70 teachers have been able to provide a C1 certificate and 86% of the nearly 100 teachers who have taken part in the second system have demonstrated C1-level proficiency in English. However, in these interviews a second problem arose: most of the teachers interviewed were planning to translate into English the materials (photocopies, handouts, PowerPoint presentations) they had been using in Spanish before, without taking into account the fact that their students' level of English had, in most cases, nothing to do with their expectations. Most of them had not given too much thought to a change in methodology, let alone a CLIL-oriented one. These interviews therefore confirmed our ideas about the need to build a bridge between the different levels of education and help university lecturers to adopt a new methodological perspective, based on CLIL research and practice, when teaching their subjects in English.

III. RESEARCH PROJECT

In order to collaborate with the University in the implementation of this Plan, the co-authors of this paper set up a Group of Educational Innovation and Research, whose main aim was to help content teachers in their use of English as the vehicle for their teaching practice. Inspired by action-research principles, and having identified a problem in the University lecturers' perspective on the implications of teaching content through English, we decided to develop a research project to ask our colleagues at Primary and Secondary schools about the best way to proceed in order to implement CLIL at university. Following DiCicco-Bloom and Crabtree "Whatever the focus of the study, the basic research question needs to be sufficiently focused so that a relatively homogenous group will have shared experiences about the topic" (DiCicco-Bloom and Crabtree 2006: 316), we defined our basic research question in the following terms: "What are the most important elements of a CLIL-based methodology, as applied in Primary and Secondary school, and can they be extended to the Tertiary level?".

Before designing our research tool, we obviously needed to check the literature published on CLIL implementation and methodology, where we found several relevant contributions. Halbach (2012), for example, has taken the distinction made by Cummins (1984) between BICS (Basic Interpersonal Communication Strategies) and CALP (Cognitive Academic Language Proficiency), as well as his framework to gauge the complexity of language tasks, as a starting point to provide guidelines to adapt difficult content tasks:

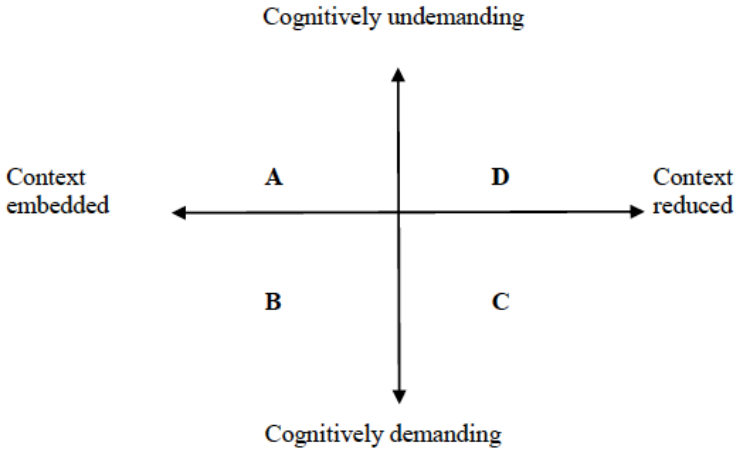

Figure 1. Cummins' framework as adapted by Halbach (2012: 35).

Having identified the problem at Quadrant C (cognitively demanding tasks with very little context, precisely the commonest case we can anticipate at the Tertiary level), she then provides solutions by creating a context and/or scaffolding students' performance:

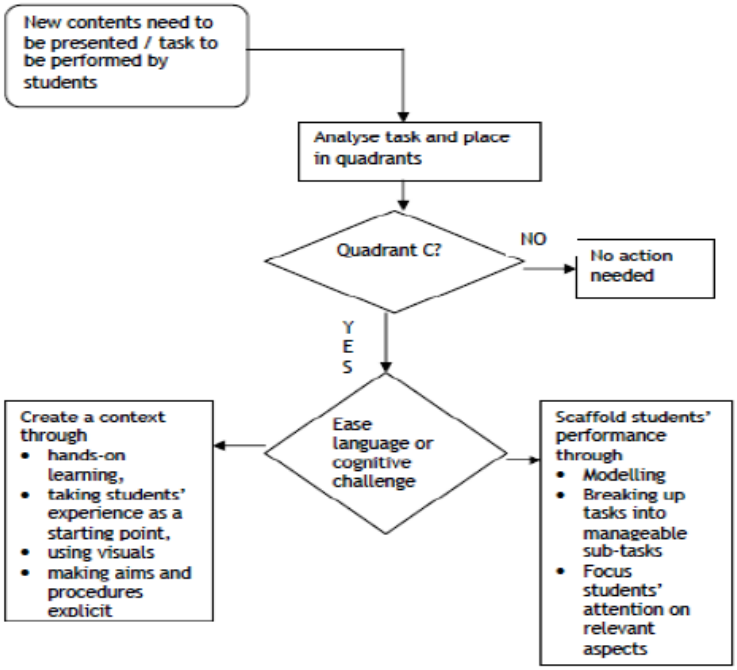

Figure 2. Adapting difficult tasks (Halbach 2012: 39).

'Scaffolding' is certainly an essential concept to apply in our University environment. Van de Pol et al. (2010) summarize it like this:

> Scaffolding is typically associated with the socio-cultural theory of Vygotsky. Wood et al. (1976) adopted the scaffolding metaphor to explain the role that adults can play in joint problem-solving activities with children. Borrowed from the field of construction (…) the use of scaffolding as a metaphor within the domain of learning refers to the temporary support provided for the completion of a task that learners otherwise might not be able to complete. This support can be provided in a variety of manners that for example include modeling and the posing of questions for different subjects (e.g., science, social studies) at different ages. (Van de Pol et al. 2010: 271-272)

According to de Graaff et al. (2007), teachers should then facilitate the following learning aspects: exposure to input at a (just) challenging level, meaning-focused processing, form-focused processing, output production, and the use of compensation strategies (de Graaff et al. 2007: 605). A very important issue here for the teachers is to identify the language demands the learner has and to provide support strategies for the learner to cope with the new situation. Of course, it is essential for he or she to have a good command of the target language and of 'classroom language' as well, so that the transition from the different parts of the lesson is smooth. The C1 requirement at our University should then probably be complemented by teacher training courses (where

'classroom language' may be acquired) and a system of external assessment of classes taught in English.

As for the other solution proposed by Halbach for cognitively demanding tasks (creating a context through hands-on learning, taking students' experience as a starting point, using visuals, and making aims and procedure explicit), her advice leads us to a student-centred paradigm, where teachers' new role as mediators will include new responsibilities, as summarized by Novotná et al. (2001: 126). According to them, teachers should:

- show an understanding of the amount and type of content language s/he should use during the lesson.
- contextualize new content language items and present them in a comprehensible manner combining both auditory and visual stimuli.
- break tasks down into their component parts and issue instructions for each part at a time.
- teach thinking skills and learning strategies and highlight new material using advance organizers.
- cluster content material whenever possible and frame it by relating it to past classroom or personal experience.
- show an understanding of and sensitivity to individual learners' needs.
- build their interdependence in both content and language.
- encourage cooperative learning as peer support.

The concept of progression is also very important when considering the cognitive demands of CLIL at university. The participation of students will undoubtedly have to evolve from a lower order of thinking to a higher order (Bloom 1956, Anderson and Kraftwohl 2001), which implies a constant challenge both for teachers and students. Methodology should be able to ease this evolution in an education scenario which permanently combines the learning of a foreign language and content. Different resources should then be used in the class to make sure that the evolution from one order of thinking to the other takes place (brainstorming, mind maps, note taking, observation sheets, experiments, hands-on or problem solving activities in groups, etc.):

> Practitioners involved in implementing CLIL / integrated curriculum programs should be aware that learners are active constructors of their knowledge by building correlations between areas of knowledge as well as between old and new information; that cognitive conflict allows students to reach a higher level of understanding and finally, that dialogue and negotiation among students do not only promote a higher competence at a linguistic level, but also at a cognitive one. (Casal 2007: 63)

Two more issues which have been discussed in great depth in CLIL environments are assessment and the role of lexis. As far as assessment is concerned, Vázquez translates

Nando Mäsch's principle from German: "As much as possible in the foreign language, whatever necessary in the L1" (Vázquez 2007: 99). This idea is complemented by Domínguez (2013), also referring to Mäsch, when she states that, as far as assessment is concerned, content should be a priority over language: linguistic competence in the foreign language is an added value which should be rewarded in the assessment process, but lack of fluency should not be penalized. Additional evidence for the potential benefits that a moderate use of the L1 has for learners' language development can be found in Alegría de la Colina and García Mayo (2009), Antón and DiCamilla (1998), Storch and Wigglesworth (2003), and Storch and Aldosari (2010).

Research has also shown how important considering lexis in CLIL classes is, with proposals like Eldridge et al.'s *LexiCLIL*: "Key to success in a CLIL environment is the acquisition of a productive vocabulary that includes knowledge of the most frequent vocabulary items in the target language; key vocabulary in individual subject areas and key vocabulary needed to function in the educational environment" (Eldridge et al. 2010: 89). A coherent approach to vocabulary acquisition and assessment, such as the one proposed by the *LexiCLIL*'s authors is therefore essential.

In order to find out Primary and Secondary School teachers' perceptions about the implementation of the CLIL methodology in their schools, we have used qualitative research based on individual in-depth interviews, designed to "co-create meaning with interviewees by reconstructing perceptions of events and experiences [and] to discover shared understandings of a particular group (Di Cicco-Bloom and Crabtree 2006: 316), or, as Grant McCracken defines it, "the long interview":

> The long interview is one of the most powerful methods in the qualitative armory. For certain descriptive and analytic purposes, no instrument of inquiry is more revealing. The method can take us into the mental world of the individual, to glimpse the categories and logic by which he or she sees the world. It can also take us into the lifeworld of the individual, to see the content and pattern of daily experience. The long interview gives us the opportunity to step into the mind of another person, to see and experience the world as they do themselves. (McCracken 1988: 9)

Comparisons of strengths and weaknesses of the long interview with four other primary research methods are summarized in the following chart (Woodside and Wilson 1995: 39). The feature profiles of the five research methods were developed from several sources on research designs (Churchill 1991, Dillman 1978, Miller 1991):

Feature		Mail Survey	Telephone interview	Mail Intercept	Long interview	Participant Observation
1.	Ability to verify responses	Low- moderate	Low-moderate	Low	High	Very high
2.	Response rate	Low	Moderate	High	Very high	Very high
3.	Ability to probe, learn reason why responses	Low	Moderate	Moderate	High	Very high
4.	Cost per completed interview	Lowest	Low	Moderate	High	Very high
5.	Ability to describe purchase and use (what, when, who, how. where)	High	Moderate	Moderate	High	Very high
6.	Possibility of interviewer bias	No	Yes	Yes	Yes	Yes
7.	Speed in completing study	Slow	Fast	Fast	Very slow	Very slow
8.	Capability for autodriving	Lowest	Low	Moderate	High	Very high
9.	Ability to generalize results to a population	High	High	Low	Very low	Very low
10.	Ability to generalize results to theories-in-use	Moderate	Low	Low	High	High

Figure 3. Feature comparisons of Primary Data Collection Methods (Woodside and Wilson 1995: 39).

The features of in-depth interviews are defined by Woodside and Wilson (1995: 39) in the following way:

> a) a face to face meeting with the interviewer and respondent; b) interviewing the respondent in his or her life space, that is, the environment related to the topic under study; c) asking open-ended, semi-structured questions with deeper exploration of unexpected topics related to the study as opportunities occur; d) tape recording of responses (when not disruptive) during the interview; e) verification of responses by triangulation of research methods (eg., comparing answers with data from direct observation and documents); and f) developing thick descriptions of individual cases.

In accordance with this model, we selected a number of participants within our region who work as CLIL teachers in schools with official Bilingual Programmes approved by the Regional Education Authority. The teachers interviewed belong to both the Primary and Secondary sphere, so that we could observe a whole picture of the compulsory education system in Cantabria. Furthermore, we chose both public schools (two of these working under the umbrella of the triple agreement between the regional Education Authority, the National one and the British Council) and state-subsidized schools ("centros concertados"). As to the teachers themselves, we wanted to have both native and non-native English speakers, men and women, and CLIL teachers (covering as much as seven different subjects of the Spanish curriculum taught in English) as well as English language teachers (who also collaborate in the CLIL programmes). Participants' CLIL teaching experience ranged from two years to more than a decade.

We chose a total of ten participants, a number that meets McCracken's criteria for a minimum number of interviewees (eight). While it could be argued that ten represents a rather small sample (and this might be one of the shortcomings of this research project), we maintain that, as a *qualitative* study, this number was sufficient in order to paint a substantial portrait of the situation of CLIL teaching in the region of Cantabria. We make no pretensions of extending our conclusion from a quantitative point of view, but we do believe the ideas and suggestions put forward by all these teachers are representative, and may show a reliable path for university lecturers when it comes to applying the CLIL methodology in a different context.

In order to acquire the maximum amount of useful information for the purposes of this study, we followed the model suggested by Fink (2000), inspired by Kvake (1996): thematizing (determining what is going to be studied), designing (type of interviews and participants), interviewing (according to an interview guide or questionnaire), transcribing (which goes beyond a simple act of copying information, since it provides an opportunity for analysis and reflection), analysing (looking for interconnected codes establishing webs of meanings), verifying, and reporting.

Following these guidelines, we designed a questionnaire with what we believe are the most important issues concerning the teaching and learning processes within the CLIL methodology. This questionnaire also observed McCracken's suggestions in terms of confidentiality and anonymity. Each interview concluded with the signing of a document in which each participant has the right to check the transcripts of their interviews, to modify or eliminate any of the information given, and to be informed about the final results of this research.

QUALITATIVE RESEARCH PERSONAL INTERVIEW

Date:
Place:
Time:
Interviewer:
Participant:
English language teacher or content teacher? Subject?
School:
EFL certification:

QUESTIONNAIRE:
1.- Could you define your linguistic competence in English nowadays?
A1 / A2 / B1 / B2 / C1 / C2
2.- Which is the most difficult basic skill for you? Why?
3.- Do you still receive teacher training? If so, could you define briefly what kind of methodology is

applied to the training activities you participate in?
4.- Could you clearly define CLIL?
5- How would you define your experience as a CLIL teacher?
6.- Generally speaking, do you consider CLIL as a positive approach for your students from the linguistic point of view? And from the content point of view? Why?
7.- Do you think that CLIL necessarily implies a methodological change for both language teachers and content teachers? Why?
8.- What kind of material do you use in your CLIL classes? From publishers? From the internet? Self-produced material?
9.- How would you qualify cooperation between language and content teachers in your school?
10.- Do you think your classes are skill balanced? Yes / No. If not, what percentage would you apply to your participation and what percentage would you apply to that of your students?
11.- Please, rate three aspects which increase difficulty when approaching CLIL teaching.

- Lack of institutional and methodological support.
- Lack of appropriate material in English for different content subjects.
- Lack of time required for the adaptation to a new approach like CLIL.
- Lack of coordination between language and content teachers.
- Lack of linguistic competence in the foreign language on the students' side.
- Lack of linguistic competence in the foreign language on the content teacher's side.
- Lack of knowledge about the content on the language teacher's side.
- Lack of CLIL teacher training.
- Others (could you please specify?).

12.- Do you agree with the following statements? Yes / No / Partially

- CLIL is based on self learning.
- Being a CLIL teacher is a prestigious option in our education system.
- CLIL is clearly beneficial as far as the foreign language is concerned.
- CLIL is as effective as standard classes as far as content learning is concerned.
- CLIL students are more motivated.

13.- In which way is your teaching practice improved or negatively affected by CLIL?

- Identification of students' needs (Improved / Negatively affected / None)
- Student-centred teaching practice (Improved / Negatively affected / None)
- Planning ways of cognitively and linguistically demanding interaction in the classroom (Improved / Negatively affected / None)
- Facilitating the implementation of new ways of assessment (Improved / Negatively affected / None)
- Facilitating new ways of group work, collaborative work, project work, etc. (Improved / Negatively affected / None)
- Facilitating new ways of student production like debate, oral presentations, roleplaying, posters, online material (blog sites, website, wikis, docs, etc.) (Improved / Negatively affected / None)
- Establishing paths of cooperation between content subjects and their teachers (Improved / Negatively affected / None)

14.- Do you consider that adopting the CLIL methodology is inherent to the use of ICT in the classroom? What kinds of ICT resources are more appropriate for this approach in your opinion?
15.- How would you qualify the situation of your school in terms of the adoption of the CLIL methodology?
16.- What kind of methodological advice would you give to university lecturers who would like to implement CLIL at the Universidad de Cantabria?

Figure 4. Questionnaire used on the interviewing process.

With the very last question of the questionnaire, researchers tried to create an inviting atmosphere in order to obtain as much information about our research question as possible. We can also state that although all our questions did guide the content of our participants' stories, we invited them to feel free to skip, add, modify or specify any

kind of extra information derived from our questions or from their own answers. On quite a few occasions their ideas and opinions went beyond the initial sense of our questions (e.g. some very interesting ideas about the worrying disconnection between educational levels in our country were offered and highly appreciated).

All the interviews were carried out by Javier Barbero in January 2012, both in English and in Spanish, at the Primary and Secondary schools where the participants work**.** The process of analysing the data took quite a long time as ten interviews had to be carefully listened to and transcribed, each interview lasting approximately half an hour. Following McCracken's guidelines, each transcription was carefully analysed in its own right for internal themes prior to checking for themes that emerged across the transcripts.

IV. RESULTS

Most of our ten participants' answers are consistent with the literature published on CLIL methodology and implementation. 60% of teachers say they have a B2 level in English, 20% a C1 level and 20% a C2 level. In general, the level of satisfaction seems to be relatively high, but they complain about the workload and prestige of their work as CLIL teachers. All of them accurately define the term CLIL and are generally satisfied with their experience, although they say an extra workload is necessary when working in a bilingual programme. Similarly, in question 12, although CLIL is considered to be beneficial and motivating for students, being a CLIL teacher is not perceived as a prestigious option in our educational system.

The two most difficult aspects concerning CLIL are the lack of institutional and methodological support and the content teacher's lack of linguistic competence in the foreign language. Half of the teachers interviewed qualify the situation of their schools as "good", three of them see it as "okay", and two of them as "not very good". It seems that the higher the consensus around the adoption of CLIL, the better the situation turns out to be. According to our participants, the cooperation at their schools was either really good and productive or it did not work at all. Half of the teachers were quite happy with their schools in this sense but the other half were really disappointed.

Most of them attend teacher training sessions, and they can see big changes in the kind of classes they receive in comparison to those they received years ago. Now classes seem to be more communicative, with a bigger emphasis on oral skills. Speaking is undoubtedly the most difficult skill for them – up to 80% say so – and the basic reason they identify is the methodology they experienced when they were students of English, which was mainly based on reading, writing and grammar. This is a big challenge since speaking (together with writing) is the skill they practise most, just like their students.

Answers offer overwhelming agreement in terms of the linguistic benefits of CLIL. Things differ, though, when it comes to analysing the impact on content, as half of the teachers interviewed admit that covering the whole programme in the foreign language is so challenging that they sometimes have to use L1 to do so.

Most of them also agree that CLIL has brought new challenges to their teaching; they see CLIL as an opportunity to change the way things are done in teaching in their schools. All teachers agree that CLIL necessarily implies a methodological change for both language teachers and content teachers, basically because CLIL implies new ways to approach the teaching-learning dynamics. Sticking to traditional methods will simply not work. CLIL enhances interaction in the classroom through group work and collaborative strategies together with new ways of student production. All teachers agree that a student-centred approach within CLIL is more than recommendable as the best way to leave old teaching habits behind. As an immediate consequence, the implementation of new ways of assessment is considered essential. At the end of the day, observing the implementation of CLIL without a single change in assessment methods simply makes no sense. The use of rubrics, visual organisers, feedback tools and review and reflection tools are some of the examples given. In this sense the role of ICT (Information and Communication Technologies) becomes fundamental as a new way to approach the teaching-learning dynamics in detail.

All teachers state that they have to be open-minded to new methodologies and ready to incorporate ICT, visual organizers and new ways of assessment in class. In this respect, most of them agree that classes should be planned according to general objectives, and not to particular content to be learnt. The ICT resources mentioned are specific tools like IWBs, laptops or projectors together with online resources like websites, blog sites,

wikis, Moodle, forums, virtual classrooms or webquests. Since most teachers – up to 80% – state that they use self-produced material, the Internet is essential as a source.

All teachers agree that CLIL does not allow you to use traditional methodology: there is simply no way to teach CLIL if you do not use debates, group work and continuous interaction. Classes should be student-centred and not teacher-centred. Cooperation between language departments and content departments is essential. A perfect example is vocabulary: if teachers are not ready to cooperate in the creation of a powerful lexical corpus for every issue related to different content subjects, the CLIL methodology is really difficult to implement. Some teachers say that the use of L1 should not be demonized. In case of communication blockage, L1 is one more resource to be used naturally. However, others say that the use of the English language should be one of the main goals in a CLIL class in order to acquire the demanded content. All teachers recommend university lecturers not to take for granted that the level of English of their students at university will be high. Finally, most teachers agree that the production and reception of oral skills should be one of our biggest interests; paradoxically enough, they also agree that precisely that aspect is one of the weakest points of Spanish students. We have selected some specific comments which we consider particularly relevant:

> **Participant #1:** *CLIL is so dynamic in every subject that you have to teach with a very open mind, much more than in any other kind of methodology. You have to think that something that works brilliantly in one class may be completely useless the following day, that is to say, this is pure dynamism.*
>
> *A CLIL teacher must be really open to ICT, to new methodological approaches and, moreover, to new ways of assessment. The thing is: how do you assess students who are studying your content through the foreign language? And how do you facilitate that assessment process? Many times you have to put yourself in the place of the student, which is something us teachers are not very used to doing.*
>
> **Participant #1:** *I try to connect with my students through ICT, they love songs, videos or games… what I can say is that all my lesson plans have got at least one game or one video which is linked with some current issue.*
>
> **Participant #1:** *We have to make the mediation through the foreign language nice and attractive to them, and to make them acquire naturally both content and the foreign language.*
>
> **Participant #6:** *They should forget about traditional teaching, I feel sorry for those professors*

> *who try to preserve that approach!!! Student groups should be smaller, classes should be based on debate-based continuous interaction.*
>
> **Participant #7:** *Professors should not take for granted that their future students will have the level of English they are supposed to have when they have access to University for the first time.*
>
> *We have to make sure they speak; no matter if they are not accurate or fluent… that is to say, we have to make sure they forget that embarrassing feeling Spaniards traditionally have when it comes to speaking foreign languages. I belong to a generation of people who do have that feeling… so we have to make sure we get rid of it. After all, the only important thing is to communicate; it doesn't really matter if even I myself am not that accurate, because at the end of the day I am not an English teacher. Even if they don't express themselves correctly, I want to be sure they can communicate content accurately enough… no matter if their English is not perfect. They make an effort, they create sentences, they manage content, they structure it all… and I think that's fine and I do appreciate that.*
>
> **Participant #8:** *Visual aids are really important, if pupils have that kind of material they understand everything much better and in that sense ICT are essential.*
>
> **Participant #9:** *They should look for more practical ways to show content to students. Traditional teaching simply does not work and ICT should have a very relevant role together with collaborative work.*

Following this research came a period of experimentation and dissemination that we have described in detail elsewhere (Barbero and González in press). We tried to apply a CLIL-oriented methodology in our own university classes (English in History and Civil Engineering degrees) and shared our experience with teachers involved in the process of teaching subjects in English (at our University's Teacher Training Centre). The feedback received in both cases (through the University's standard evaluation process and through informal, unrecorded interviews with our students and colleagues) has reinforced our perception: the methodological principles applied in primary and secondary classes can be successfully extended to the tertiary level, although more research needs to be conducted, increasing the number of participants at pre-university levels and extending the "long interviews" to university level.

In order to facilitate the visibility and dissemination of our research, we have attempted to summarize its final results in the following "CLIL-methodology Decalogue":

1. Communication is a must. English should be used as much as possible, but the mother tongue can also be used in case of communication blockage.

2. Scaffolding is essential. Identify language demands and provide support strategies. Use visual aids and written language whenever necessary. All students, but particularly all those whose listening skills are not the best, will appreciate the use of slides summarizing the main ideas stated in class. Model and break up the tasks if appropriate.

3. A reference lexical corpus is required for every task. Advance work (with warm-up activities like video comprehension, webquests or the like) on specific vocabulary should be done prior to the explanation of cognitively challenging content.

4. Use ICT, in particular software and on-line material in English.

5. Use a student-centred approach. Put yourself in the students' position. Provide the opportunity for as much hands-on learning as possible. Use pair work and group work.

6. In assessment, content should be a priority over language: linguistic competence in the foreign language is an added value which should be rewarded, but the lack of fluency in the foreign language should not be a major obstacle for a positive evaluation.

7. Use diverse assessment instruments: self-assessment, peer assessment, rubrics, and language and content portfolios.

8. Repeat and consolidate. Do not hesitate to repeat, paraphrase, and/or present information in different formats.

9. Plan carefully in order to be flexible.

10. Turn problems into opportunities. Be bold as far as methodology is concerned and take advantage of this new educational context to work on a different paradigm. Teachers are facilitators and mediators between language and content, not mere transmitters of knowledge. Assess your teaching practice (with instruments like the EPOSTL, or "The CLIL Teachers' Competences Grid").

V. CONCLUSIONS

The research carried out with a group of CLIL teachers at Primary and Secondary levels is consistent with the literature about CLIL experimentation and methodology. They both show that:

- CLIL is much more than a new way to have access to content and English; it is a new educational path we can take advantage of in order to implement new ways to approach classes at university.
- CLIL is here to stay: experiences in Primary and Secondary Education can help Tertiary Education to redefine a new scenario where new resources and approaches may be put forward.
- Teaching methodology needs to change in order to be successful. Some basic concepts and strategies, which we have included in our "decalogue", need to be considered: a student-centred approach, scaffolding, priority of content over language (in assessment), lexical corpora, ICT, self-assessment, repetition, planning and flexibility.
- According to our own experience, qualitative research has proven to be a powerful tool to obtain valuable information. In this sense, we observe that there is no real distance between the theoretical basis of CLIL and the methodological practice of our teachers.

REFERENCES

Alegría de la Colina, A. and García Mayo, M.P. 2009. "Oral interaction in task-based EFL learning: The use of the L1 as a cognitive tool". *IRAL: International Review of Applied Linguistics* 47 (3), 325-345.

Anderson, L.W. and Krathwohl, D.R. 2001. *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objects*. New York: Longman.

Antón, M. and DiCamilla, F. 1998. "Socio-cognitive functions of L1 collaborative interaction in the L2 classroom". *Canadian Modern Language Review* 54, 314-342.

Barbero, J. and González, J.A. in press. "CLIL at university: Transversal integration of English language and content in the curriculum at the University of Cantabria". In Breeze, R., C. Martínez-Pasamar, C. Llamas-Saiz and C. Tabernero-Sala (Eds.) *Integration of Theory and Practice in CLIL*. Amsterdam: Rodopi.

Bloom, B.S. 1956. *Taxonomy of Educational Objectives. Handbook I: The Cognitive Domain.* New York: David McKay.

Casal, S. 2007. "The integrated curriculum, CLIL and constructivism". *Revista Española de Lingüística Aplicada*, volumen monográfico, 55-65.

CEFTRAIN Project. 12 April 2013 <http://www.helsinki.fi/project/ceftrain>

Churchill, G.A. Jr. 1991. *Marketing Research. Methodological Foundations.* Chicago: Dryden Press.

Costa, F. and Coleman, J.A. 2010. "Integrating content and language in higher education in Italy: Ongoing research". *International CLIL Research Journal* 1 (3), 19-29.

Cummins, J. 1984. "Wanted: A theoretical framework for relating language proficiency to academic achievement among bilingual students, language proficiency and academic achievement". In Rivera, C. (Ed.) *Language Proficiency and Academic Achievement*. Clevedon, Avon: Multilingual Matters, 2-20.

Dalton-Puffer, C. and Smit, U. (Eds.) 2007. *Empirical Perspectives on CLIL Classroom Discourse*. Frankfurt am Main: Peter Lang.

De Graaff, R., Koopman G.J. and Westhoff, G. 2007. "Identifying effective L2 pedagogy in content and language integrated learning". *Viewz (Vienna English Working Papers)* 16 (3), 12-19.

DiCicco-Bloom, B. and Crabtree, B.F. 2006. "The qualitative research interview". *Medical Education* 40, 314–321.

Dillman, D.A. 1978. *Mail and Telephone Surfers. The Total Design Method.* New York: Wiley Interscience.

Domínguez, A. *El currículum integrado*. 18 June 2013 <www.uhu.es/antonia.dominguez/docs/cintegrado.pps>

Spoken Performances Illustrating the 6 Levels of the Common European Framework of Reference for Languages. 12 April 2013 <http://www.ciep.fr/en/publi_evalcert/dvd-productions-orales-cecrl>

Europass. 12 April 2013 <http://europass.cedefop.europa.eu/en/documents/european-skills-passport/language-passport/templates-instructions>

Eldridge, J., Neufeld, S. and Hancioğlu, N. 2010. "Towards a lexical framework for CLIL". *International CLIL Research Journal* 1 (3), 80-95.

Fernández, D.J. 2009. "CLIL at the university level: Relating language teaching with and through content teaching". *Latin American Journal of Content & Language Integrated Learning* 2 (2), 10-26.

Fink, A.S. 2000. "The role of the researcher in the qualitative research process. A potential barrier to archiving qualitative data". *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research* 1(3), Art. 4. 15 June 2013 <http://nbn-resolving.de/urn:nbn:de:0114-fqs000344>

Gozalo, A. 2011. *Del Currículo de Lenguas Extranjeras a la Práctica Docente: Algunas Reflexiones Previas* (paper presented at CEP Torrelavega, unpublished).

Halbach, A. 2012. "Adapting content subject for bilingual Tteaching". *Encuentro* 21, 34-41.

Kvale, S. 1996. *InterViews. An Introduction to Qualitative Research Interviewing*. Thousand Oaks: Sage.

Lasagabaster, D. and Sierra, J.M. 2009. "Language attitudes in CLIL and traditional EFL classes". *International CLIL Research Journal* 1 (2), 4-17.

Liubinienė, V. 2009, "Developing listening skills". *CLIL Kalbų Studijos* 15, 89-93.

McCracken, G. 1988. *The Long Interview*. Thousand Oaks: Sage.

Marsh D. and Frigols M.J. 2007. "CLIL as a catalyst for change in language education". *Babylonia: A Journal of Language Teaching and Learning* 3 (15), 33-37.

Miller, D.C. 1991. *Handbook of Research Design and Social Measurement.* Newbury Park: Sage.

Muñoz, C. 2007. "CLIL: Some thoughts on its psycholinguistic principles". *Revista Española de Lingüística Aplicada*, volumen monográfico, 17-26.

Novotná, J., Hadj-Moussová, Z. and Hofmannova, M. 2001 "Teacher training for CLIL – Competences of a CLIL teacher". *Proceedings SEMT* 1, 122-126.

Storch, N. and Aldosari. A. 2010. "Learners' use of first language (Arabic) in pair work in an EFL class". *Language Teaching Research* 14 (4), 355-375.

Storch, N. and Wigglesworth, G. 2003. "Is there a role for the use of the L1 in an L2 setting?" *TESOL Quarterly* 32 (4), 760-770.

Surveylang 2012, First European Survey on Language Competences. 12 April 2013 <http://ec.europa.eu/languages/eslc>

Universidad de Cantabria, Plan de Capacitación Lingüística. 12 April 2013 <http://www.unican.es/NR/rdonlyres/DA3BFE08-FA65-463F-951C-1A5E0BBBDC5D/ 83594/NormativaGrado17122012.pdf>

Van de Pol, J., Volman M. and Beishuizen, J. 2010. "Scaffolding in teacher-student interaction: A decade of research". *Educ Psychol* 22, 271–296.

Vártuki, A. 2010. "Linguistic benefits of the CLIL approach: Measuring linguistic competences". *International CLIL Research Journal* 1 (3), 67-79.

Vázquez, G. 2007. "Models of CLIL: An evaluation of its status drawing on the German experience: A critical report on the limits of reality and perspectives". *Revista Española de Lingüística Aplicada*, volume monográfico, 95-111.

Wilkinson, R. (Ed.) 2004. *Integrating Content and Language. Meeting the Challenge of Multilingual Higher Education*. Maastricht: Universitaire Pers Maastricht.

Wilkinson, R. and Zegers, V. (Eds.) 2007. *Researching Content and Language Integration in Higher Education*. Maastricht: Universitaire Pers Maastricht.

Wilkinson, R. and Zegers, V. (Eds.) 2008. *Realizing Content and Language Integration in Higher Education*. Maastricht, Netherlands: Maastricht University.

Woodside A.G. and Wilson E.J. 1995. "Applying the long interview". *Direct Marketing Research. Journal of Direct Marketing* 9 (I), 37-55.

Received: 28 June 2013

Accepted: 27 August 2013

Cite this article as:

González, J.A. & Barbero, J. 2013. "Building bridges between different levels of education: Methodological proposals for CLIL at university". *Language Value* 5 (1), 1-23. Jaume I University ePress: Castelló, Spain. http://www.e-revistes.uji.es/languagevalue. DOI**:** http://dx.doi.org/10.6035/LanguageV.2013.5.2

ISSN 1989-7103

Language Value December 2013, Volume 5, Number 1 pp. 24-47
http://www.e-revistes.uji.es/languagevalue ISSN 1989-7103

(In)compatibility of CLIL and ESP courses at university

Joseba M. González Ardeo
fipgoarj@lg.ehu.es
Universidad del País Vasco / Euskal Herriko Unibertsitatea, Spain

ABSTRACT

This paper deals with the current coexistence of ESP (English for Specific Purposes) and CLIL (Content and Language Integrated Learning) courses in tertiary educational settings in the Basque Country. The University of the Basque Country (UBC) is immersed in an ongoing process of internationalization and, consequently, its language teachers are witnessing an unstoppable process of Anglicization. At present, and presumably in the medium and long term, institutional decisions will continue to support CLIL in preference to ESP. In order to analyse this process within the UBC, quantitative data about these two linguistic approaches are gathered and compared with data from 2005. A questionnaire aimed at gathering the opinions of engineering students who currently take both types of courses is also used as a source of qualitative data. The main conclusion of this exploratory study is that both types of courses seem to be compatible. However, language teachers, English-medium content teachers and students are facing a tough challenge, since neither of the two types of course is a panacea.

Keywords*: CLIL, ESP, internationalization of higher education, Anglicization, University of the Basque Country, questionnaire*

I. INTRODUCTION

In a globalized, postmodern world a rather different model of education has emerged. With the aim of setting up a European Higher Education Area (EHEA), more than forty countries have joined the Bologna Process with the aim of standardizing higher education in Europe and thus make an open market for European and non-European citizens (Wächter 2008). One of the undeniable consequences is the fact that many universities in Europe are desperately trying to internationalize their curricula. This approach offers several benefits, the most obvious of which is that it encourages academic cooperation and, consequently, staff and student mobility.

Internationalization of tertiary institutions usually means implementing higher education in English or, in simpler terms, Anglicization, since universities tend to use this language more and more as a means of instruction and a working language, with the aim of attracting not only international students but also staff and courses. Anglicization

DOI: http://dx.doi.org/10.6035/LanguageV.2013.5.3

in higher education means making use of the English language as a *lingua franca* for academia (Mauranen and Ranta 2009) and converting material in the local language into English in an attempt to increase international cooperation or, more succinctly and directly, introducing a number of English-medium programmes.

The word internationalization primarily suggests, or should suggest, multiculturalism and multilingualism but a flow of cultures and languages other than English does not seem to exist. It is true that languages such as German and French try to keep up with English, but they are significantly less successful. Publication in international journals is a synonym of publication in English. Local languages used for publishing in local publications have little (if any) weight in a globalized world in contrast with almighty English. In fact, most 'international' journals based in non-English-speaking countries have become English-only publications, thus reducing multilingualism in that particular field and eliminating the status of any other language as an international language of science (Hamel 2007). Undergraduate and postgraduate programmes taught entirely in English increase year in, year out (Costa and Coleman 2010, Wächter and Maiworm 2008) not only in Northern Europe, Germany and the Netherlands but also, although at a slower rate, in Southern Europe. Scholars for whom English is their second, or additional, language have a clear disadvantage, since nowadays (on the horns of a dilemma: publish or perish) a teacher may remain unknown on the international stage or academic community if s/he does not publish in English.

At least three main conclusions can be reached from the information presented so far. First of all, as Phillipson (2009: 37) stated, "what emerges unambiguously is that in the Bologna Process, internationalization means English-medium higher education". Secondly, as Coleman (2006: 11) stated, "it seems inevitable that English, in some form, will definitely become the language of education". The European shift towards English-medium instruction (Hughes 2008) is one of the consequences of the Bologna Process and it has been a non-stop process since English became the international language for the dissemination of knowledge in, for example, scientific conferences several years ago (Ammon 1996). Finally, it seems to be true that, to a certain extent, most of us are somewhat forced to accept certain, sometimes controversial, beliefs due to the uncritical adoption of Anglo-Saxon paradigms (Phillipson 2006).

The policies of the Bologna Process state that all university students will have to accredit the knowledge of a foreign language – in the majority of cases English – to B1 or B2 level of the European Framework of Reference in order to obtain their certificates. Therefore, universities will have to provide for this requirement.

This section depicts a scenario in which the term internationalization is a synonym of Anglicization. The following section deals with the role of CLIL (Content and Language Integrated Learning) and ESP (English for Specific Purposes) in this unstoppable process and the way they fight their way through future hegemony.

II. CLIL VS ESP AND THE ANGLICIZATION PROCESS

To start with, the theoretical foundations of CLIL must be clearly established (Dalton-Puffer 2008). CLIL, a predominantly European movement, is in fact an umbrella term used to describe a whole spectrum of approaches. In other words, it embraces any type of programme where a second language is used to teach non-linguistic content-matter (García 2009, Khoury and Berilgen-Duzgun 2008, Marsh 2002). It consists in learning subject-matter content through the medium of a foreign language, and learning a foreign language by studying subject-matter content. In the CLIL methodology, language is a tool for learning and communicating, and the content determines the language to be learnt. In addition, some researchers (Lasagabaster and Sierra 2010, Navés and Victori 2010) have also pointed out and emphasized the need to have empirical studies that back up statements so often made about the benefits of CLIL, as well as to generalize the implementation of CLIL as a successful teaching model in order to consolidate CLIL programmes. To learn to be effective, it is necessary to integrate receptive and productive skills. Moreover, reading and listening are re-dimensioned, language is functional, lexicon is of paramount importance and the approach is task-oriented.

In 2006, a macro-survey on Europeans' languages was conducted by the European Commission and some alarming (but fairly predictable) conclusions were reached. Spain appears as "the bottom rung of the foreign-language knowledge ladder" (Lasagabaster and Sierra 2009: 7). CLIL has been embraced since then as a linguistic lifebelt or a possible lever for change and success. Consequently, "…the CLIL approach has become an important tool in supporting the achievement of the European

Commission's objective of improving the foreign language proficiency of its citizens" (Lasagabaster and Sierra 2009: 15). Powered by the aforementioned circumstances, CLIL has had an almost exponential uptake across Europe over the past two decades, gradually becoming an established teaching approach (Järvinen 2007). Teaching through one single language is seen as second rate education (Lorenzo 2007), and thus CLIL is spreading fast. However, the impact of this rapid spread has not been thoroughly researched yet, especially in Spain (Lasagabaster and Ruiz de Zarobe 2010, Ruiz de Zarobe and Jiménez Catalán 2009).

There is also a need to explore how the key concepts of content, language and language learning merge into CLIL (Fernández 2009). The differences between CLIL and other approaches and methodologies developed within the framework of Content-Based Instruction (CBI), e.g. Content-Based Learning (CBL), ESP, Cognitive Academic Language Learning Activities (CALLA), Integration of Content and Language (ICL), Language Across the Curriculum and even Task-Based Learning (TBL), are basically ontological and, consequentially, epistemological. These approaches get bundled together because they share some assumptions, namely: teaching/learning a foreign language is an educational practice; content is inseparable from linguistic expression; it is necessary to coordinate the learning of language and subject-matter; language is the major medium of instruction and learning; subject-matter content contextualizes language learning.

For learning a subject in an L2, learners need three kinds of language and learning skills: basic L2 skills, academic L2 skills, and metacognitive skills. This means that they will have to be able to listen, speak, read and write on a wide range of topics, making appropriate and accurate use of the language at the level of sounds/spelling, grammar, vocabulary, function, and discourse. To learn all this, they take foreign language lessons and L2-medium subject lessons informally outside school. However, learners of subjects in an L2 have to do things with the language which conventional foreign language learners do not have to do. They need what Cummins (1979) calls CALP (cognitive academic language proficiency), a formal, de-contextualized variety of language used in school. These CALP skills are: 1) Listening. Students may have to deal with excellent teacher presentations (well-organized, supported by visuals, etc.), or just the opposite. Moreover, they will have to listen to their peers and try to grasp an

argument in the broken language typically found in these situations. 2) Reading. Learners will have to read handouts, board work, subject textbooks, and so on, sometimes with the help of diagrams, charts, etc. but sometimes with dense paragraphs in formal language in which sentences are long and complex. Sometimes they will search for information in reference books, the internet, and so on, and will need the necessary skills for using tables, skimming, scanning, etc. They will also have to distinguish central from peripheral information. 3) Writing. Students will have to plan, draft and revise texts by constructing formal sentences accurately, using specific vocabulary, and organizing the sentences in paragraphs. 4) Talking. This will include responding to teacher elicitations, talking in groups (this skill is complex and many students have difficulties even in their L1), making and supporting points, agreeing and disagreeing with others' points, making presentations, and so forth, sometimes using various visual means of conveying data. 5) Functions. Thinking skills such as defining, classifying, hypothesizing, comparing, expressing cause and effect, time sequence, and so on, are needed. 6) Vocabulary. They will have to learn low-frequency, high-precision subject-specific words and also academic vocabulary or school-specific words and phrases for expressing, for example, notions of structure, function, type, place, and so forth. 7) Metacognitive skills. Learners need to ask teachers to explain and repeat, to look up words, to remember key phrases useful in academic discourse, to listen carefully for organizational signals in teacher talk, to pre-read texts, etc. These skills will help learners to work efficiently in CLIL lessons, provided of course they are previously or simultaneously trained.

CLIL programmes are considered to be content-based programmes as well as subject programmes. To be sure that students are indeed learning the language, CLIL teachers will have to analyse the language demands of lessons and provide language support to help learners meet them, otherwise learners will learn the subject inefficiently and the language more slowly. Continued development occurs only if subject teachers promote it by drawing learners' conscious attention to language. In other words, for CLIL teachers to be good, they need some skill in language development.

A careful analysis of the development of ESP, on the other hand, brings together key concepts such as register analysis, rhetorical/discourse analysis, situational analysis, skills and strategies, needs analysis, learning-centred processes (Hutchinson and Waters

1987) and authenticity of input and purpose, which seem to characterize all academic proposals in the field. ESP is designed to meet specific needs; it is related in content to particular disciplines, occupations and activities; it is centred on language (syntax, lexis, discourse, semantics) that is appropriate to the activities; it is non-General English oriented and it has no pre-ordained methodology (discipline, strategy or need-dependent) (Bell 2006, Dudley-Evans and St John 1998). In fact, the ESP teacher "should not become a teacher of subject matter, but rather an interested student of the subject matter" (Micic 2005: 5). They should also regard themselves and their students as "professionals who learn and complement each other" (Irizar and Chiappy 2008: 13).

Knowledge of the subject and its terminology is important, but it is also important to remember that it is usage of the English language in a specific context which is being taught in ESP, since the focus is on the terminology used in specific fields such as law, medicine, engineering, finance, etc. Consequently, CLIL is not an evolution of ESP because the focus is very different and even if both aim at the same goal of becoming fluent in a language, CLIL does not focus on teaching this language, as opposed to ESP.

CLIL and ESP share a number of key features, such as the use of content from different non-linguistic subjects, development of academic and communication skills, and use of communicative language teaching methodology. However, there are some key differences in these two approaches, and one of them is the objectives and learning outcomes. CLIL clearly states that content-learning objectives are equally or even more important than language-learning objectives, whereas ESP is language-led and language-learning objectives are of primary importance.

Another key aspect that both approaches share is the language (L2), but it is approached in a completely different way. In ESP, language is both the content of the course and the means of learning content, it is often adapted to the learners' proficiency level or rather the learners are often grouped according to their levels of language proficiency. In CLIL, it is advised to use 'scaffolding' strategies to make content more manageable without really adapting it (Hammond and Gibbons 2005). In CLIL, language is viewed as a means and not a goal in itself, which means it is learned when needed and not, as in more traditional approaches, ESP among them, when language content leads towards

the choice of content topics. In CLIL, learning strategies are employed to provide language support for content acquisition.

More tolerance to language usage, more support for language production, enabling learners to acquire language in such a way is one of the key principles of CLIL, as opposed to traditional language teaching. CLIL also tolerates more use of L1, and code-switching strategies.

One more key difference is the teachers. An ideal CLIL teacher is a subject specialist with an appropriate level of language proficiency. Sometimes in CLIL, tandem teaching by content and subject specialists is used. A typical ESP teacher is a language teacher who does not take on the responsibility for teaching subject content as it is beyond their competence because of the high cognitive demands of the subjects taught in higher education. One of the ways of solving the 'content' issue for the language specialists in higher education is to rely more on project or problem-based teaching and to co-operate with subject specialists.

After analysing the global view of CLIL and ESP methodologies and their current support, the following section focuses on a local scenario: the Basque Country and the use of English at its University.

III. ENGLISH IN THE BASQUE COUNTRY AND AT THE UNIVERSITY OF THE BASQUE COUNTRY

The Basque Country (*Euskal Herria*) is a small stateless nation (20,664 km^2) located in the vertex of the Atlantic Arc on both sides of the Pyrenees mountain range, divided between Spain and France. *Euskal Herria* is made up of seven historical territories or provinces. Within the Spanish State: *Araba*, *Bizkaia*, *Gipuzkoa* or the so-called Basque Autonomous Community (BAC) (7,233 km^2), and the Charter Community of Navarre (10,392 km^2). In the French State, *Iparralde* (Northern Basque Country) (3,039 km^2) is made up of *Lapurdi*, *Behe Nafarroa* and *Zuberoa*. These are part of the *département* of the *Pyrénées-Atlantiques* (they do not constitute a single, separate administration in France, despite continual demands for the creation of a Basque *département*). This division largely explains the different situation presented by each of the three Basque political-administrative units, with respect to both bilingualism and Basque identity.

The BAC, the most dynamic in the Basque language and culture normalization process, experienced high rates of immigration from other Spanish regions, most significantly at the beginning of the 20th century and during the Franco regime. In terms of population, *Euskal Herria* has, roughly speaking, 2.9 million inhabitants: 2.1 in the BAC, 0.55 in Navarre and 0.26 in *Iparralde*. So, the region we are dealing with is a highly complex one.

Only two decades ago, bilingualism in the BAC was the cornerstone of research when Basque versus Spanish competence was evaluated. A gradual shift towards multilingualism is taking place and it is becoming a social phenomenon (governed by the needs of globalization and cultural openness). Multilingual education in the Basque Country reinforced the teaching of English as a foreign language in the curriculum. Foreign-language teaching (English in most cases) is compulsory from the third year of primary school (eight-year-olds), but early instruction in English from the age of four or six is very common. Specific projects to develop trilingual education in Basque schools were developed in the 1990s and they can be regarded as an extension of the bilingual educational system. These projects aim at achieving communicative competence in the three languages (Basque, Spanish and English) and also consider the importance of developing positive attitudes towards the languages. Research carried out in the Basque Country in connection with the level of competence in the three languages has covered a wide range of options. For example, Cenoz and Gorter (2011) analysed the development of writing skills in Basque, Spanish and English; Elorza and Muñoa (2008) focused on how to promote the minority language (Basque) through integrated multilingual language planning; Gallardo del Puerto (2007) analysed L3 (English) phonological competence in connection with the learner's level of bilingualism (Basque/Spanish).

The growth of tertiary CLIL is an institutional initiative dictated by the strategic need for internationalization, one which will enhance the employability of home students while attracting international students (Wächter 2004) in a globalizing academia (Wilkinson and Zegers 2008). Research carried out in the Basque Country confirms that secondary school students enrolled in CLIL classes hold significantly more positive attitudes towards English as a foreign language to teach content than those in EFL classes (Lasagabaster and Sierra 2009), but it is widely recognized that there is a strong

need for research and better practices in tertiary CLIL settings (Costa and Coleman, 2010, Dalton-Puffer and Smit 2007).

In 2005 the University of the Basque Country (UBC) launched a Multilingualism Plan (to implement an official strategy of the Basque Government) with the general aim of fostering the presence of foreign languages in its curricula. More specifically, these aims can be summarized as follows:

- To provide continuity to the multilingualism projects in which English or French are taught at Secondary School in the BAC.
- To develop linguistic training for students with the aim of facilitating mobility within the EHEA.
- To foster conferences, symposia and other university activities in foreign languages. The plan expects to linguistically qualify students so that they can take more advantage of visiting professors and foreign journals.
- To facilitate the insertion of students on the labour market, since mastering a foreign language has become market value added.
- To widen the options for foreign students in exchange and international programmes. The delivery of lectures in foreign languages is undoubtedly appealing when it comes to attracting foreign students.
- To promote the internationalization of teaching staff, with a view to enhancing their teaching and research careers.

The Plan also states that it will allow students from the UBC to learn not only English and French but also the specific language of each branch or specialization. Taking into account the topic of this paper, the word 'specific' is fundamental in this declaration of principles or intentions.

Nothing at all is mentioned in terms of, for example, teacher training. Consequently, as Wächter and Maiworm (2008) stated, students are exposed to academic staff with a broad range of knowledge from different sources. It therefore seems that CLIL at the tertiary level is often performed in a rather casual manner because university lecturers are not usually inclined to receive training on how to teach in a foreign language. They are content to teach independently, and see no need to discuss issues with language teachers (more specifically, ESP teachers). Even worse, some content teachers may also

feel that the subjects taught through English will be watered down and simplified in order to make them comprehensible to the students, but in some cases this may be a fallacious argument. In order to justify our statement, let us consider the following summarized version of this UBC agreement – Regulations on how to obtain accreditation for teaching in non-official languages (June 2010): 1) The accreditation certifies that the teacher can teach in the non-official language; 2) The accreditation can be obtained through one of the following ways: a) Through a test that includes two parts. On the one hand there is a written part, in which firstly candidates will have to offer proof of their command of the language in a general way and, secondly, they will have to write a 250-300-word text to prove they have enough ability to write in a clear and comprehensible way about a university topic selected by the candidate from among those suggested by a committee. On the other hand, the test also includes an oral part in which the candidate will have to prove sufficient command of the language to develop and present a university topic chosen from among those suggested by the committee, a task that will last 15 minutes (maximum). b) Through proper accreditation: C1 or higher certificate (CAE is mentioned as an example); merits such as a university degree studied in that language; a PhD completed in that language; an aptitude certificate granted by Spanish Official Language Schools; having taught at a foreign university in that language for at least 100 hours; other merits.

One conclusion that can be drawn from this scenario is that watered-down versions of CLIL courses may be rather likely in the UBC, due mainly to a prospective lack of professional competence, from a linguistic point of view, of some CLILers. On their part, ESP teachers see a need for collaboration in order to properly define how to teach in English at the tertiary level.

In the following section, current figures of CLIL at the UBC are presented and compared with current figures of ESP. Those figures are also compared with figures from 2005. This will show us the picture of a growing trend in favour of CLIL. Next, an exploratory study is described and its results are presented. The main aim of this study is to quantify to what extent ESP and CLIL courses are (in)compatible at the UBC and, more precisely, how engineering students face the dilemma of choosing CLIL vs. ESP courses (or both) and why they do so.

IV. CLIL AND ENGINEERING AT THE UNIVERSITY OF THE BASQUE COUNTRY

As regards the implementation and results of CLIL programmes in the Basque Country, Lasagabaster's study (2008), which compared the linguistic competence of secondary-school students in CLIL programmes and students in traditional EFL courses, found statistically significant differences in all language skills (including speaking, writing, grammar, listening and overall English competence) in favour of CLIL students in secondary education. Likewise, Ruiz de Zarobe's research (2007) on the oral proficiency of secondary-school learners showed that CLIL learners outperformed non-CLIL learners in most of the measures used to analyse oral skills.

Those in favour of the CLIL approach justify its use by stating that as in secondary education, CLIL-type teaching in higher education increases learner motivation, contributing to both cognitively more demanding content and language learning and communicative skills development. They also state that CLIL enables learners to perform to the level of their linguistic and academic competence. Integrating communication learning outcomes promotes students' ability to observe, adopt and adjust the discursive identity of their discipline (Fortanet-Gómez and Räisänen 2008).

Due to political, economic, academic and cultural reasons, CLIL is undoubtedly gaining ground in the academic market in general, and the BAC is no exception. The recent evolution of CLIL and ESP in tertiary settings within the BAC seems to predict that ESP will be soon fading away with the advent of CLIL.

Table 1 shows the evolution of ESP and CLIL in quantitative terms, that is, by considering 'southern-Europe traditional' credits (10 teaching hours per credit) in 2005, and the ECTS (European Credit Transfer System) credits at present assigned to ESP courses and to CLIL courses. There were no CLIL courses in 2005, but at present the situation has changed radically (and dramatically for those ESP practitioners that have been working in the BAC for the last 30 years).

Table 1. ESP credits and CLIL ECTS credits in engineering.

	ESP / CLIL 2005	**ESP / CLIL at present**
Public institutions (UBC)		
Faculty of Engineering (BI)	24 / 0	0 / 82
School of Technical Industrial Engineering (BI)	36 / 0	12 / 21
School of Technical Mining and Public Works (BI)	12 / 0	0 / 6
Polytechnic School (GI)	30 / 0	12 / 12
School of Technical Industrial Engineering (GI)	24 / 0	7.5 / 12
School of Engineering (AR)	30 / 0	7.5 / 18
Private institutions		
University of Deusto (BI)	9 / 0	0 / 42
Mondragon University (GI)	18 / 0	3 / 24
BAC: BI (*Bizkaia*), GI (*Gipuzkoa*), AR (*Araba*)		

V. EXPLORATORY STUDY

With the aim of helping to clarify the reality of this new scenario and thus supplement the figures from Table 1, an additional study was carried out to gather information from engineering students about their ESP and CLIL lessons. Their opinions and reasons for choosing both types of courses throw light on the topic and may help us to predict short-term trends, since both approaches will be compatible only if a synergic phenomenon takes place.

V.1. Sample

The study was conducted in Bilbao, internationally probably the best known city in the Basque Country. The participants were engineering students from the UBC, to be more precise, from the School of Technical Industrial Engineering. More specifically, they were 23 undergraduates in their last year of study (men/women: 10/13) from different branches of engineering, and their ages ranged from 21 to 26.

V.2. Instruments

The questionnaire that students were invited to complete (a sample is included as an Appendix) is an original questionnaire in the sense that it is not an adaptation of other

researchers' questionnaires. The reason for this lies in the peculiar characteristics of the sample used, i.e. engineering students located in the BAC, where Basque (a minority language) and Spanish (an international language) are co-official languages, and where English is extensively used by engineers.

The questionnaire was checked and tested thoroughly prior to being used. Other ESP teachers filtered out unclear or biased items from the questionnaire, and it was tested in a control group before adopting its final version – divided into three separate blocks. The first block gathers information about the students' age and gender. The second one contains 16 statements. The first five items were included in order to gain an idea of the students' attitudes towards English in general, in terms of liking or disliking it and in terms of weighing up its importance for them and for others in the Basque Country. Previous research shows that monolingual (mother tongue: Basque or Spanish) and bilingual (Basque/Spanish) engineering students show overall positive attitudes towards English (González Ardeo 2003). The remaining eleven items were all connected with ESP and CLIL and they attempted to find out whether, in these students' opinion, ESP lessons are more interesting/useful than CLIL lessons or not, and if they think they are compatible despite the sometimes considerable overlap between the subjects. The validity of the questionnaire rests on the fact that these adult students understood clearly enough the role of both CLIL and ESP courses and their differences as well as their similarities. Apart from the fact that the students were directly involved in these courses, they received intensive information about these two topics, and answers were provided to solve all the questions raised in the most effective and complete way. Moreover, in order to reinforce its validity, it can be stated that the questionnaire measures what it was intended to measure, since the questions were phrased appropriately, and the options for responding were also considered appropriate after the sifting process mentioned above. Finally, the last block includes a single statement to somehow filter the answers from the second block and thus try to minimize biased results. This statement ("I would have provided the same answers in this questionnaire if the interviewer had been a CLIL teacher") expects the students to be as objective as possible – no matter who the interviewer is (ESP teacher versus CLIL teacher).

V.3. Procedure

The paper-and-pencil questionnaires were completed in class and the time allowed was 10 minutes. They were printed in English and the answers were recorded on answer sheets, which were evaluated statistically after having been codified.

V.4. Results

Results were first tabulated. Arithmetical means and standard deviations give us first an overall view of the students' perceptions about the items included in the questionnaire. The standard deviation (SD = σ) has been chosen instead of the average absolute deviation because the former is algebraically simpler though practically less robust than the latter. Moreover, σ is commonly used to measure confidence in statistical conclusions.

The distribution of data is normal (bell-shaped), so we will assume that:

mean ± 2σ = 95% of the population

mean ± 3σ = 99.7% of the population

Figure 1 shows a summary of the results obtained in terms of descriptive statistics. It can be observed in items 1 to 5 that the dominant attitude towards English continues to be favourable or very favourable, and a strong instrumental but also integrative motivation (Gardner and Lambert 1972) is clear. However, in item 2, "English should be taught to all pupils in the Basque Country", the scores are comparatively lower (although dispersion is relatively high) and this may deserve additional research.

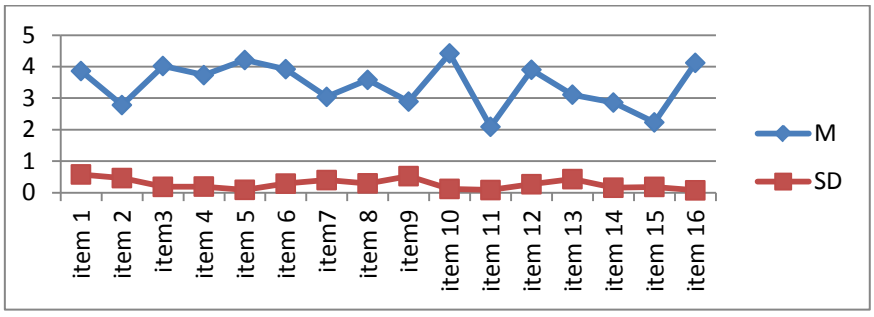

Figure 1. Mean (M) and σ (SD) values of the 16 items included in the questionnaire.

Items 6 and 7 serve to clarify things in terms of the role of cognitive activity and cognitive interest in integrated ESP and/or CLIL courses.

The students' views about ESP and CLIL for English-improving purposes are checked in items 8 and 9. ESP programmes are designed for students who want to improve their English in a certain professional field of study, normally taught at university, whereas the CLIL approach is said to be successful and to help to improve students' foreign language competence, even in bilingual contexts where English has little social presence (Lasagabaster 2008).

Items 10 and 11 provide information to know to what extent ESP and/or CLIL have helped them to learn content in English. Content-based instruction comprises the steps of vocabulary acquisition, oral and written summarizing, making oral presentations, and participating in project preparation and delivery. All these stages employ learners' professional knowledge and prompt them to activate it in a foreign language. Being content-related, the areas of language learning described above allow learners to develop competence through a sequence of thematically organized tasks. This is a common procedure in traditional ESP courses, where the use of language is restricted to a set of social and thematic areas chiefly for the unambiguous transfer of (technical) information (Gramley 2008), but it cannot be denied that in CLIL courses the approach and aim are very similar.

In items 12 and 13, information is gathered about how much the students think their English has improved due to their ESP and/or CLIL teachers. The results show an important and surprising difference between the two. The theory behind CLIL is that complementary subjects taught at the same time result in improved internalization and retention. Essentially, CLIL enables you to take advantage of the connections between language and specific subject-related content in order to improve the educational efficiency. In many cases, CLIL can increase your students' motivation to learn what you are teaching them. This can enable them to progress more quickly and solidly than they would with deliberately separated subjects. For this to happen, all we have to do, according to CLIL supporters, is to make sure that the content-specific subject is the primary objective and that the linguistic goals are secondary, as this would provide consistency and sturdy scaffolding on which to build linguistic progress. The students

were asked about this linguistic progress and, according to the results obtained, it seems to be significantly higher through ESP lessons. CLIL is not a panacea (yet), but ESP is no panacea either. Nobody should expect near-native levels of proficiency, but improvement can be expected with both approaches.

Items 14 and 15 include crucial information with respect to the future of ESP and CLIL. The students are not sure if ESP lessons are necessary when in the presence of CLIL lessons and they are very consistent in their answers (low level of dispersion). However, their opinion about whether CLIL lessons are necessary is much clearer, since they consider that they are (again, with a low level of dispersion).

Finally, item 16 is one of the fundamental items in the questionnaire, since their perception on this topic may influence future actions implemented by teaching authorities. Surprisingly, the students are very much in favour of the compatibility of ESP and CLIL lessons.

The mean and σ values (4.23 and 0.057) for the statement within the last block of the questionnaire, "I would have provided the same answers in this questionnaire if the interviewer had been a CLIL teacher", provides the overall results of the questionnaire with potential validity.

VI. DISCUSSION AND CONCLUSION

Language learning is not a simple linear process but a functional diversification, an extension of the learner's communicative range. In a language-in-context model, language development is viewed as a process of learning to control an increasing range of registers and genres, rather than viewing development in relative terms of 'more' or 'less' language. CLIL and ESP learners' success is largely related to the opportunities they have to participate in a range of authentic learning contexts and meaning-making, and the support (in terms of scaffolding techniques) that they are given to do so successfully in English (Hammond and Gibbons 2005).

ESP practitioners understand that authentic learning contexts are obvious when dealing with content courses (irrespective of the language used), but they also know that students need to know certain linguistic tools when English is used as a means of instruction. Some teachers involved in CLIL are not fully aware of this need. The

following anecdote can illustrate this belief. One of my colleagues, who teaches Electronics courses, shared with me, in a friendly way, his thoughts on ESP and CLIL: "We teach engineering courses in English. The medium of instruction is English. The textbooks we use are in English... Then, what is the need for you (English language teachers) to teach English to the students?" My answer was: "We don't teach English as a subject. We teach the language as a life skill or survival skill. You explain certain technical concepts in English, whereas we teach students how to communicate effectively and how to develop their language skills. You want your students to make presentations, write reports, prepare proposals, etc. and we teach them these skills."

What many people believe, CLIL practitioners included, is that in principle CLIL is applicable regardless of the context; hence, by introducing CLIL from an early age at school, students will not have to take any ESP courses in future.

The UBC is CLILing but no quantifiable feedback – in the broad sense – has been provided so far. No information has been made public with respect to the strong and/or weak points of the new approach. Despite the fact that wide recognition has been afforded to CLIL over the years (Baker 2001, Dalton-Puffer and Smit 2007, Genesee 1987), because providing curriculum content in a second or foreign language can lead to both increased subject knowledge and enhanced L2 proficiency, in the case of the UBC this assumption must be taken with some caution. This can be understood if we consider that CLIL approaches have tended to develop in primary and secondary schools in the BAC, where the content is at a lower level and is therefore more accessible for language teachers, but at tertiary level the linguistic complexity increases probably beyond the limits of average university content teaching staff. CLIL might then become no more than "a brilliant business idea" (Smith and Hayworth 2005: 70), allowing publishers to churn out new titles, all of which claim to be in line with CLIL theories.

The theoretical definitions of CLIL appear to be so wide as to admit any form of language teaching. Moreover, CLIL itself is not a well-established teaching practice (of course, with exceptions). In some instances where CLIL has been implemented there have been concerns about the decrease in the level of the subject matter due to the oversimplification of the language because of the differences in the learners' linguistic ability in the foreign language and, in the case of the UBC, because of the prospective

differences in the teachers' linguistic ability in the foreign language. ESP, in contrast, is supported by a wide body of theory. Added to that, there are an increasing number of course books covering more and more specialized domains and ESP does this by offering definite content: content that is geared to the students' wants and needs.

As a matter of policy, one school or university may decide to practice 'immersion' but this does not mean that it is CLILing. The teacher may just treat the students as if they were native speakers and 'immerse' them in an academic context that attempts to simulate the type of educational conditions and experiences that a native-speaker pupil would expect to undergo. Yet the social context of the student will in most cases be an obvious drawback and will act as a friction force putting up resistance against the relative motion of a solid surface (language learning).

On the other hand, teachers who deliver their material in the L2 cannot assume that they are being understood. The implications are obvious: 1) Teachers would have to adjust their methodology to ensure that the students understand the content. 2) The adjustment would mean more task-based and therefore more learner-centred materials. And 3) The materials would focus more clearly on the role that language plays in the students' assimilation of the concepts in the subject matter.

It is difficult to accept that a teacher or learner is CLILing at present at the UBC. In exactly the same way, some ESP practices were criticized 30 years ago. Nevertheless, as Graddol (2006) states, there is a steady growth of CLIL in most European countries. He has warned that the need for specialist English teachers will decline rapidly – from university level downwards.

The need for language teachers should not change in terms of quantity, but today a different kind of language teacher is needed. Content belongs to content teachers but good teaching belongs to the good teacher. CLIL is being used, among other things, to 'unload' the students' timetable and, simultaneously, to find room for more EFL instruction. In our humble opinion, input is not enough – which means that CLIL is not enough without some kind of EFL support. EFL instruction must therefore supplement and enhance language input from CLIL instruction to develop language proficiency by getting the students to use the language for increasingly demanding tasks while providing them with feedback and support.

Dafouz and Guerrini (2009) claimed that things will improve in the future, as a new generation of CLIL students and teachers reaches higher education. However, despite all the institutional efforts in favour of CLIL in the Basque Country, language teachers are facing a tough challenge and, probably, all we can talk about is a pre-CLIL period at the UBC. Nevertheless, inertia is being generated for CLIL while, with respect to ESP, a clear slow-down process can be observed. Despite this obvious fact, the main conclusion of our study is that CLIL and ESP courses seem to be compatible (at least at present) at the UBC. Nevertheless, this last statement must be considered with caution, since the study carried out in this paper is only exploratory due to its small-scale approach (only 23 participants from a single school). Moreover, it should be pointed out that in this case, despite the fact that in this school a relatively larger number of students take either CLIL courses or ESP courses, only 23 take both. Further large-scale studies would be necessary to fully understand the nature of this recent phenomenon. These studies might focus on why some students choose CLIL courses but not ESP courses and vice versa (if any!), when both are readily available.

In other words, the synergic phenomenon mentioned within the previous section seems to be due to certain facts founded on the following: 1) a very favourable attitude of the students towards English (the highest means and the lowest SDs in this block are for item 3: "I like being taught in English" and item 5 "English will be important for me when working as an engineer"); 2) the level of awareness of the students with respect to language acquisition vs. learning content (item 10 "I have learnt more language than content in my ESP lessons" also receives a high mean with a very low SD); and 3) the feeling of compatibility of both types of courses (item 16 "ESP lessons and CLIL lessons are compatible with each other" also presents a high mean with a very low SD).

Finally, more food for thought is presented. With more than 2 million international students, international education is a lucrative market. Most students are shared among 5 western nations, namely the USA, the UK, France, Germany and Australia. Moreover, the ratios between international students (they usually spend years in that country) and local students abroad (they usually travel overseas for only a few weeks) are overwhelmingly high (Australia 23:1; USA 15:1; UK 9:1). The rates in some European countries are also outstandingly high. For example, of the 38,000 students enrolled at the University of Copenhagen, 15% are international students (Jensen and Thøgersen

2011). This means that international students in these countries are seen primarily as financial resources. Could this be one of the reasons for the UBC to support the new approach so vehemently?

REFERENCES

Ammon, U. 1996. "The European Union (EU – formerly European Community). Status change during the last fifty years". In Fishman, J.A., A.W. Conrad and A. Rubal-López (Eds.) *Post-Imperial English. Status Change in Former British and American Colonies, 1940-1990*. Berlin: Mouton de Gruyter, 241-267

Baker, C. 2001. *Foundations of Bilingual Education and Bilingualism*. Clevedon: Multilingual Matters.

Bell, C. 2006. "Specialised vocabulary". *English Teaching Professional* 42, 35-36.

Costa, F. and Coleman, J.A. 2010. "Integrating content and language in higher education in Italy: Ongoing research". *International CLIL Research Journal* 1 (3), 19-29.

Cenoz, J. and Gorter, D. 2011. "A holistic approach to multilingual education: Introduction". *The Modern Language Journal* 95 (3), 339-345.

Coleman, J.A. 2006. "English-medium teaching in European higher education". *Language Teaching* 39, 1–14.

Cummins, J. 1979. "Cognitive/academic language proficiency, linguistic interdependence, the optimum age question and some other matters". *Working Papers on Bilingualism* 19, 121-129.

Dafouz, E. and Guerrini, M.C. (Eds.) 2009. *CLIL across Educational Levels: Experiences from Primary, Secondary and Tertiary Contexts*. Madrid/London: Santillana Educación / Richmond Publishing.

Dalton-Puffer, C. 2008. "Outcomes and processes in Content and Language Integrated Learning (CLIL): Current research from Europe". In Delanoy, W. and L. Volkmann (Eds.) *Future Perspectives for English Language Teaching*. Heidelberg: Carl Winter, 139-157.

Dalton-Puffer, C. and Smit, U. (Eds.) 2007. *Empirical Perspectives on CLIL Classroom Discourse*. Frankfurt am Main: Peter Lang.

Dudley-Evans, T. and St John, M.J. 1998. *Developments in English for Specific Purposes: A Multi-disciplinary Approach*. Cambridge: Cambridge University Press.

Elorza, I. and Muñoa, I. 2008. "Promoting the minority language through integrated plurilingual language planning: The case of the ikastolas". *Language, Culture & Curriculum* 21 (1), 85-101.

Fernández, D.J. 2009. "CLIL at the university level: Relating language teaching with and through content teaching". *Latin American Journal of Content & Language Integrated Learning* 2 (2), 10-26.

Fortanet-Gómez, I. and Räisänen, C. (Eds.) 2008. *ESP in European Higher Education: Integrating Language and Content*. Amsterdam: John Benjamins.

Gallardo del Puerto, F. 2007. "Is L3 phonological competence affected by the learner's level of bilingualism?" *International Journal of Multilingualism* 4 (1), 1-16.

García, O. 2009. *Bilingual Education in the 21st Century: A Global Perspective*. Malden, MA: Wiley-Blackwell.

Gardner, R.C. and Lambert, W.E. 1972. *Attitudes and Motivation in Second Language Learnin*g. Rowley, MA: Newbury House.

Genesee, F. 1987. *Learning Through Two Languages*. Cambridge, MA: Newbury House.

González Ardeo, J.M. 2003. "Attitude towards English and ESP acquisition as an L2 or L3 at university". *Ibérica* 6, 109-133.

Graddol, D. 2006. *English Next. Why Global English May Mean the End of 'English as a Foreign Language'*. London: British Council.

Gramley, S. 2008. "English for Specific Purposes (ESP)". In Gramley, S. and V. Gramley (Eds.) *Bielefeld Introduction to Applied Linguistics: A Course Book*. Bielefeld, Germany: Aisthesis Verlag, 183-196.

Hamel, R.E. 2007. "The dominance of English in the international scientific periodical literature and the future of language use in science". *AILA Review* 20, 53-71.

Hammond, J. and Gibbons, P. 2005. "Putting scaffolding to work: The contribution of scaffolding in articulating ESL education". *Prospect* 20 (1), 6-30.

Hughes, R. 2008. "Internationalization of higher education and language policy: Questions of quality and equity". *Higher Education Management and Policy* 20, 1-18.

Hutchinson, T. and Waters, A. 1987. *English for Specific Purposes: A Learning-centered Approach.* Cambridge: Cambridge University Press.

Irizar, T. and Chiappy, A. 2008. "Operational level 4: A Cuban project". *Professional and Academic English* 32, 12-17.

Järvinen, H.M. 2007. "Language in Content and Language Integrated Learning (CLIL)". In Marsh, D. and D. Wolff (Eds.) *Diverse Contexts-Converging Goals. CLIL in Europe*. Frankfurt am Main: Peter Lang, 253-260.

Jensen, C. and Thøgersen, J. 2011. "Danish university lecturers' attitudes towards English as the medium of instruction". *Ibérica* 22, 13-33.

Khoury, S.B. and Berilgen-Duzgun, S. 2008. "CLIL: Lessons from the learner". In Jendli, A., C. Coombe and S. Troudi (Eds.) *Best Practice in Language Teaching*. Dubai, United Arab Emirates: TESOL Arabia, 25-34.

Lasagabaster, D. 2008. "Foreign language competence in content and language integrated courses". *The Open Applied Linguistics Journal* 1, 31-42.

Lasagabaster, D. and Sierra, J.M. 2009. "Language attitudes in CLIL and traditional EFL classes". *International CLIL Research Journal* 1 (2), 4-17.

Lasagabaster, D. and Sierra, J.M. 2010. "Immersion and CLIL in English: more differences than similarities". *ELT Journal* 64 (4), 367-375.

Lasagabaster, D. and Ruiz de Zarobe, Y. (Eds.) 2010. *CLIL in Spain: Implementation, Results and Teacher Training*. Newcastle upon Tyne, UK: Cambridge Scholars Publishing.

Lorenzo, F. 2007. "The sociolinguistics of CLIL: Language planning and language change in 21st century Europe". *Revista Española de Lingüística Aplicada*, volume monográfico, 27-38.

Marsh, D. 2002. *CLIL European Dimension: Actions, Trends and Foresight Potential*. <ec.europa.eu/education/languages/pdf/doc491_en.pdf>

Mauranen, A. and Ranta, E. (Eds.) 2009. *English as a Lingua Franca: Studies and Findings*. Newcastle upon Tyne, UK: Cambridge Scholars Publishing.

Micic, S. 2005. "Reforms in English for medical academic purposes in Belgrade". *Professional and Academic English* 27, 4-9.

Navés, T. and Victori, M. 2010. "CLIL in Catalonia: An overview of research studies". In Ruiz de Zarobe, Y. and D. Lasagabaster (Eds.) *CLIL in Spain: Implementation, Results and Teacher Training*. Newcastle Upon Tyne, UK: Cambridge Scholars Publishing, 36-49.

Phillipson, R. 2006. "Figuring out the Englishization of Europe". In Leung, C. and J. Jenkins (Eds.) *Reconfiguring Europe*. London: Equinox, 65-86.

Phillipson, R. 2009. "English in higher education: panacea or pandemic?" *Angles on the English-speaking World* 9, 29-57.

Ruiz de Zarobe, Y. 2007. "CLIL in a bilingual community: Similarities and differences with the learning of English as a Foreign Language". In Smit, U. and C. Dalton-Puffer (Eds.) *VIEWZ: Vienna English Working Papers (Special Issue: Current Research on CLIL 2)* 16 (3), 47-52.

Ruiz de Zarobe, Y. and Jiménez Catalán, R.M. 2009. *CLIL in Spain: Content and Language Integrated Learning: Evidence from Research in Europe*. Bristol: Multilingual Matters.

Smith, K. and Heyworth, F. 2005. "The *ELT Journal* debate: Common European Framework? We don't need bureaucrats to tell us what to teach!". In Beaven, B. (Ed.) *IATEFL 2005. Cardiff Conference Selections.* Canterbury, England: IATEFL, 70-72.

Wächter, B. 2004. *Higher Education in a Changing Environment*. Bonn: Lemmens.

Wächter, B. 2008. *Internationalisation and the European Higher Education Area*, report prepared for the 'official Bologna seminar' of the Flemish government, Ghent. <http://www.ond.vlaanderen.be/hogeronderwijs/bologna/BolognaSeminars/documents/Ghent/Ghent May08 Bernd Waechter.pdf>

Wächter, B. and Maiworm, F. 2008. *English-taught Programmes in European Higher Education. The Picture in 2007*. Bonn: Lemmens.

Wilkinson, R. and Zegers, V. (Eds.) 2008. *Realizing Content and Language Integration in Higher Education*. Maastricht, Netherlands: Maastricht University.

Received: 29 October 2012

Accepted: 13 August 2013

Cite this article as:

González Ardeo, J.M. 2013. "(In)compatibility of CLIL and ESP courses at university". *Language Value* 5 (1), 24-47. Jaume I University ePress: Castelló, Spain. http://www.e-revistes.uji.es/languagevalue. DOI**:** http://dx.doi.org/10.6035/LanguageV.2013.5.3

ISSN 1989-7103

APPENDIX

Age		
Gender	◊ Male	◊ Female

5: strongly agree; 4: agree; 3: neither agree nor disagree; 2: disagree; 1: strongly disagree						
	ITEMS	**5**	**4**	**3**	**2**	**1**
1	I like speaking/reading/writing in English					
2	English should be taught to all pupils in the Basque Country					
3	I like being taught in English					
4	English is a language worth learning					
5	English will be important for me when working as an engineer					
6	ESP lessons have been interesting and useful					
7	CLIL lessons have been interesting and useful					
8	ESP lessons have helped me to improve my English considerably					
9	CLIL lessons have helped me to improve my English considerably					
10	I have learnt more language than content in my ESP lessons					
11	I have learnt more language than content in my CLIL lessons					
12	My ESP teachers have had a beneficial effect on my English					
13	My CLIL teachers have had a beneficial effect on my English					
14	ESP lessons are unnecessary if you attend CLIL lessons					
15	CLIL lessons are unnecessary if you attend ESP lessons					
16	ESP lessons and CLIL lessons are compatible with each other					
	I would have provided the same answers in this questionnaire if the interviewer had been a CLIL teacher					

*ESP stands for English for Specific Purposes / CLIL stands for Content and Language Integrated Learning

Language Value December 2013, Volume 5, Number 1 pp. 48-75
http://www.e-revistes.uji.es/languagevalue ISSN 1989-7103

A holistic experience in the integrated learning of specialized English and content in engineering degrees

Irina Argüelles Álvarez
irina@euitt.upm.es
Universidad Politécnica de Madrid, Spain

ABSTRACT

This paper aims to outline a theory-based Content and Language Integrated Learning course and to establish the rationale for adopting a holistic approach to the teaching of languages in tertiary education. Our work focuses on the interdependence between Content and Language Integrated Learning (CLIL), and the use of Information and Communication Technologies (ICT), in particular regarding the learning of English within the framework of Telecommunications Engineering. The study first analyses the diverse components of the instructional approach and the extent to which this approach interrelates with technologies within the context of what we have defined as a holistic experience, since it also aims to develop a set of generic competences or transferable skills. Second, an example of a course project framed in this holistic approach is described in order to exemplify the specific actions suggested for learner autonomy and CLIL. The approach provides both an adequate framework as well as the conditions needed to carry out a lifelong learning experience within our context, a Spanish School of Engineering. In addition to specialized language and content, the approach integrates the learning of skills and capacities required by the new plans that have been established following the Bologna Declaration in 1999.

Key words: *Content and Language Integrated Learning, Information and Communication Technologies, holistic approaches, tertiary education, skills and capacities.*

I. INTRODUCTION

The changes introduced into the degrees affecting Engineering studies at the Universidad Politécnica de Madrid (UPM) led to the implementation four years ago of a new compulsory subject across all its Schools and Faculties: English for Professional and Academic Communication (EPAC). At the Escuela Universitaria de Ingenería Técnica de Telecomunicación (EUITT-UPM) this compulsory subject was scheduled for the seventh semester in the new four-year degrees. The University also established a B2 proficiency level in accordance with the Common European Framework of Reference for Languages (CEFRL) as the minimum level for students to enrol in the subject. In this context, EPAC was planned to respond to the needs at the EUITT, incorporating methodologies applied to previous pilot experiences which had resulted in

DOI: http://dx.doi.org/10.6035/LanguageV.2013.5.4

very positive outcomes (Argüelles et al. 2011). Two of the most important research areas which initially supported the idea of an advanced course designed to offer engineering students an alternative to a traditional one were: Content and Language Integrated Learning and electronic material development, both of which could be used in either distance or blended learning modalities.

Although it is not our intention here to address the question of the most appropriate term to be applied in our setting, English-medium instruction, English-medium education or Integrated Content and Language in Higher Education could fit our conceptual framework, as has been the case in previous Content and Language Integrated Learning projects (Sercu 2004, Unterberger and Wilhelmer 2011). Content and Language Integrated Learning (CLIL) is used here instead of Content Based Instruction (CBI) as it highlights the fact that specific content is mainly used to provide a framework where the learning of both the content and the language are considered to be equally important. As in Dafouz and Guerrini (2009), this integration is understood from a communicative perspective in which the goal is the development of communicative abilities within a specific field or context. According to Fernández Fontecha (2001), integrated learning of curricular subjects and proficiency in a foreign language can be achieved through different methods. In our approach, CLIL fits the constructive model, where the initial hypothesis is that language is learnt when there is a real need for communication (Halliday 1975, 1978). Here, the actual learning departs from a motivational orientation related to the non-linguistic aspect of the subject, project or task; the learning style is highly associated with the task-based or the project-based approach, where students must use the foreign language to do the course assignments.

Whilst the feature of instrumental motivation, far beyond the basic integrative aspects of the language, is one of the most important factors in this framework, the success of the approach will depend on a careful selection, organization and integration of activities leading to relevant "true-to-life" outcomes. In the case of Telecommunications students, extra motivation derives from the unavoidable incorporation of Information and Communication Technologies (ICT) as a necessary tool to achieve the expected results. Hence, discrete activities are very often structured in more complex tasks (Ellis 2003, Skehan 1996) or even class projects, which allow related technologies to be included

and adapt to the necessities and specific circumstances of the Centre, the group, the instructor or a group of students' particular goals.

Nevertheless, parallel to the real-world tasks and projects, class activities also have beneficial effects on course renewal and update. The opportunity to develop Learning Objects (LO) from the final products derived from previous class activities cannot be overlooked. This fundamental data model implies the use of modular and self-content material, separately or as part of a lesson, module or course. Thus the main advantage of such material is its flexibility. It can easily be imported or exported from one platform to any other, utilized with different groups, courses and across subjects, degrees, Schools or Universities. Researchers such as del Moral and Cernea (2005) pointed to cooperation with students in the development of materials as a means to convey new knowledge (also cf. Argüelles Álvarez 2005, 2006). Electronic materials can subsequently be used both for autonomous learning as well as for more traditional "learning directed by others" (LDO) syllabus designs, including b-learning (blended learning), as long as they respect the basic teaching and learning best practices concerning the use of technologies. As a most effective medium of organizing and compiling completed tasks, technologies also favour the collection of potential class materials generated year after year as a result of the course experience. Once again, the storage of LO for easy localization implies a necessary collaboration with professionals from areas of ICT.

In what follows, we will outline a theory-based Content and Language Integrated Learning course based on the interdependence between CLIL and the use of ICT. We will focus on a project developed within the framework of Telecommunications Engineering which thoroughly integrates both the proposed holistic approach to the teaching of languages in tertiary education and the learning of skills and capacities required by the new plans established after the Bologna Declaration in 1999.

II. DESIGNING THE COURSE

In the case of the Escuela Universitaria de Ingenería Técnica de Telecomunicación, the EPAC course, as with many other subjects included in the new curriculum of this centre, has inherited or adapted contents and materials from the former three-year

engineering degree. The last two subjects of a module which includes three elective subjects on professional communication were the point of departure for the design of the new six-ECTS compulsory subject. These subjects matched the contents agreed upon by the members of the Department of Applied Linguistics as compulsory and were hence taught across the different Faculties and Schools at the UPM. On the other hand, the general contents of these courses, such as writing a CV, a cover letter, an e-mail message or an abstract, and attending a job interview or giving a presentation on a specialized topic, are fairly typical and likely within different approaches, and are already being taught in every Centre at the UPM.

II.1. Learning context

Initially, the adaptation to the new degrees could have seemed an easy task to carry out. Yet two important factors constrained the design of the new subject. With the new entrance requirements, all new graduate students are now required to reach a B2 proficiency level of English, as described by the Common European Framework of Reference for Languages, before beginning the course. In contrast, students in the previous three-year degrees were mostly below the B1 level. Additionally, a new condition changed the status of the subject. Nowadays students are obliged to enrol and pass this subject, whereas in the past, it was just an elective subject in the Telecommunications curriculum.

It is difficult and definitely beyond the limits of this study to determine the learners' objectives for learning English, nevertheless, it might be predicted that the proficiency level and the compulsory nature of the subject affect the students' motivation. This prediction matches Schumann's view in second language learning contexts (1986: 383) that an integrative motivation seems to be more effective when the learning of the language is not a necessary condition. Therefore, in integratively-oriented contexts, the learner wants to learn the second language to meet with, talk to or find out about speakers of the target language. On the other hand, instrumentally-oriented learners want to learn the language for more utilitarian reasons, such as getting ahead in their career or dealing with English-speaking technical co-workers or clients. It has generally been thought that integrative motivation is the more powerful of the two, but a great

deal of instrumental motivation is in fact needed on the part of the students who enrol in the new compulsory EPAC course.

The instrumental/integrative construct helps to analyse students' preferences or needs at the beginning of the course in order to prepare integrated content and language activities that raise their motivation. Defined in Gardner (1985), it includes three components: desire to achieve goals, effort devoted towards achieving such goals and satisfaction with the task. Given that many studies have found evidence that motivation correlates significantly with achievement in the second language (Gardner and McIntyre 1993: 3), motivation is considered crucial to the acquisition process.

II.2. Theme-based and skill integrated instruction

Content and Language Integrated Learning differs from more traditional language classes in that content is seen as driving the curriculum, but at the same time the approach provides good opportunities for students to practise across the skills areas as they work on higher-level language skills (e.g. by integrating reading and listening skills). From the range of prototypical models at university levels (theme-based language instruction, sheltered content instruction and adjunct language instruction), theme-based or topic-based models are probably the most widespread in tertiary educational settings in Spain. Theme-based instruction also frames our particular context of a language class in a school of engineering, insofar as the syllabus is subordinated to themes that are suitable for these engineering students' general educational curriculum. However, the instruction here is also highly conditioned by other significant factors, such as skills development and the use of ICT.

As presented in the literature (Gaffield-Vile 1996, Kasper 1997), theme-based language instruction has traditionally relied to a great extent on content aspects of the courses, in particular the topic, the organizing principles, the linguistic focus and the language learning objectives. Similarly, the corresponding methodology derives from highly conventional proposals mostly used today in other general language or language for specific purposes courses. In our view, the integration of language skills, their organization in modules, tasks or class projects in the past were very innovative, challenging and highly adequate proposals for different levels and contexts, but at this

point they should not be seen as examples of "new" methodologies. In order to further adapt theme- or topic-based instruction to our current times and needs, language programmes must also be implemented, rather than merely described, in terms of general or more specific non-linguistic skills and abilities that the students will achieve together with the learning of the language. As a matter of fact, new programmes adapted to the higher education area highlight the fact that subjects are no longer designed in terms of content alone, but instead include other "competences" to be improved during the course. Thus, the specific course outcomes demonstrate the acquisition of such competences. As Tuning (2000) put it:

> Competences can be distinguished in subject specific and generic ones. Although Tuning acknowledges to the full the importance of building-up and developing subject specific knowledge and skills as the basis for university degree programmes, it has highlighted the fact that time and attention should also be devoted to the development of generic competences or transferable skills. This last component is becoming more and more relevant for preparing students well for their future role in society in terms of employability and citizenship.

II.3. Use of ICT

An additional step towards the planning of new courses must include the integration of ICT. Over the last few years, the use of the Virtual Learning Environment (VLE) Moodle in the EUIT de Telecomunicación has allowed both materials and activities to be adapted to a virtual environment where students can work autonomously. Depending on the different subjects, this adaptation can take many forms. At the most basic level, it allows traditional materials, such as Word or PDF documents, links to web pages, and presentations in Power Point, to be organized in the corresponding space of the platform. However, it can also involve the exploitation of every resource offered by the virtual environment for continuous evaluation, such as synchronous and asynchronous student-to-student communication, student and instructor communication, and collaborative activities and tasks. The latter was the case with the subjects preceding "English for Professional and Academic Communication" in the former Technical degrees. The virtual environment, Moodle, had implications for the entire curriculum and was seen mainly as a means of promoting learner autonomy. B-learning was seen as a good opportunity to provide students with the necessary tools and enough material and guidance to work independently.

The new course design presents optimal conditions for the use of the virtual learning environment Moodle. If, in the past, the platform was seen as an opportunity to help students to overcome the difficulties related to their varied proficiency levels and anxiety derived from communicating in a foreign language (Argüelles Álvarez 2011), these are not the main aims any more. Currently, the platform has been transformed into a meeting-point which favours not only course organization but also communication among the members of the group when performing individual or collaborative tasks and project work. With regard to the methodology adopted, blended learning implies a commitment to exploit both Moodle and classroom resources in a complementary way. A task-based approach (Nunan 1993) with an emphasis on communicative competence has been followed in order to effectively integrate all the resources offered by both the traditional classroom and the virtual environment. However, similarly to what has happened with task- or project-based methodologies, b-learning is no longer a "novelty".

If we want to further integrate Information and Communication Technologies into our daily routine and work on capacities, here is a unique opportunity for students in the area of Telecommunications to apply most of the generic competences grouped in Tuning (2000) into three types: instrumental, interpersonal and systemic. The constructive model proposes an initial hypothesis that language is learnt when there is a real need for communication (Halliday 1975, 1978). This model can be established as the basis for a motivational orientation related to the non-linguistic aspect of the subject, where students must use the foreign language in order to fulfil the course assignments. These course assignments are in the form of Learning Objects, thus our students in the area of Telecommunications can actively participate in the development of LO, which can later be used autonomously or as part of different subjects.

An LO is "Any entity, digital or non-digital, that may be used for learning, education or training"; "Any digital resource that can be reused to support learning Web-based interactive chunks of e-learning designed to explain a stand-alone learning objective" or "A digitized entity which can be used, reused or referenced during technology supported learning" (Technology Glossary of Terms). Beginning in the year 2000 (Murphy 2004), with huge advances in technology on the part of organizations such as the Institute of Electrical and Electronics Engineers (IEEE), the concept of Learning Object became

well-known. Pertaining to the teaching of languages, this fundamental technological aspect implies that modular and self-content material (i.e. LO) can be imported or exported from one platform to any other. Its reusability and its easy localization also imply the need for the collaboration of professionals from different fields. Furthermore, the researchers del Moral and Cernea (2005) pointed to the participation of students in the development of these materials as a means to convey new knowledge, a learning process also defended and applied in the past (Argüelles Álvarez 2005, 2006).

III. ENGLISH FOR PROFESSIONAL AND ACADEMIC COMMUNICATION

In our Centre, as is also the case in the rest of Spain, a particular level of proficiency in accordance with the CEFRL is required for students to complete their degree. In our case, students are also required to achieve a specific proficiency level to enrol in a specific subject. Students who enrol in EPAC are in the fourth year of their degree in Telecommunications Engineering, although by and large they have been at the University for longer. Some students will certify their B2 level in English by presenting an official certificate, while others will begin the EPAC course after passing two introductory subjects that prepare students with a B1 to reach the required level. In the latter case, and upon completion of the two preparation courses, students take an internal B2 accreditation test. The result is that students who enrol in EPAC do not demonstrate, as was the case in the past, a "mix-match" of proficiency levels. As opposed to the past, wherein there was considerable variation in terms of levels, in our current situation the affective factors derived from performance in the foreign language (Brown 1981, Gardner and Macintyre 1993) do not need to be considered to the same extent. The negative influence of such affective factors in proficiency development, especially when the students have to speak in front of others, seems to be much less in these homogeneous groups with an upper intermediate level of proficiency.

The course-wide strategy of EPAC is based on previous observation of groups enrolled in subjects of similar characteristics over the past ten years, as well as the study of their possible adaptation to the new contextual needs. In the framework of the external constraints described previously, the general approach that could best describe the course are a task- / project-based syllabus which includes a negotiated component along

with the integration of technologies in order to establish a more interactive relationship among the students and between the whole group of learners and the instructor. One particular advantage of project work is that either language or skill problems can be dealt with when they arise. Another interesting aspect is that students can work on a topic of interest within their specific field of knowledge, such as reading and listening selectively in preparation for a final presentation. Connected with the aforementioned context, the approach allows a negotiated component to be adopted, although within an external syllabus, which provides the students with opportunities to further intervene in their own learning (based on Holec 1987, or Holme 1996). Thus, we are speaking here of the interaction of approaches and methodologies and their integration with ICT into a b-learning course.

III.1. Programme

The programme means a further step from the original course entitled Professional Communication, included in the former technical degree curriculum (two modules of English for Academic and Professional Purposes, the first focused on writing skills and the second on oral ones), which had undergone a previous revision process to adapt the language-based course to a content-based organization (Argüelles Álvarez 2011). This previous subject was then conceived as covering four parts or areas of content – a) socializing, b) telephoning, c) job searching, and d) presentations. The first steps towards adaptation have been taken respecting these content modules, but the emphasis is on the last two, whereas "socializing" was crucial in the previous subject. Whilst "Professional Communication" was mainly thought of as being integratively-oriented, the new "English for Professional and Academic Communication" is more instrumentally-oriented. After the first semester (Autumn 2012-2013) teaching what was considered to be the pilot course to a group of fourteen students, results showed that B2 learners in this subject expected to learn the language for more utilitarian reasons rather than speaking for socializing, which had been a priority among their fellow students in the past. Either their higher level of proficiency or their previous experience learning English could explain this change: students have sufficient command of the English language to socialize in informal contexts or to survive when

travelling, and some or most of them have had the opportunity to practise their English with native or foreign speakers either face-to-face or on-line.

III.1.1. Course modules

The course is programmed for 160 hours throughout 15 weeks. This implies two two-hour seminars (in-class activities) a week and 5-6 hours of personal work on the part of the students out of class. There are 12 students enrolled in the second pilot group (Spring 2012-2013)[1] after a first experience in the first semester. In the adapted programme, the first two modules, which include topics such as greetings, introductions, language learning and learning styles or talking on the phone and e-mail writing, are covered in 20-25% of this time. This part of the course is mainly devoted to re-programming or to adapting the programme to the needs and interests of the group. The first aim is to allow students to participate, thus giving them more responsibility in their learning process. For instance, students give their opinion regarding the use of materials during the course or the organization of individual sessions. A learning contract can eventually be included at this point to organize their work outside of class sessions. The second aim is to raise self-awareness by asking them to reflect on their own needs and those of the rest of the group. Listening or video activities where different international students analyse their strengths and weaknesses regarding their use of English as a foreign language can be used as a model for reflection. Furthermore, a questionnaire on the virtual environment Moodle or in a .pdf file, including specific questions which address the most common difficulties of non-native speakers in the different skills, can favour their personal needs analysis. This questionnaire will include a section with questions regarding the importance of English for a Telecommunications Engineer in order to allow the students to notice that there are specific needs derived from their future career activities. An open activity in the forum in Moodle can encourage the exchange of opinions about the importance of the different skills for an engineer. The final aim is to help students understand the importance of autonomous learning. Once their personal needs have been established, students realize that a

[1] Although the original course is programmed for 30 students per group, the actual enrolment in these first years is conditioned by two important factors: the first one is that the subject EPAC is taught in the 7th semester of the new plans and few students have actually passed the previous courses; the second is that only a small number of students in the 7th semester have certified a B2 level according to the CEFRL and thus cannot enrol in the subject.

personal work schedule must be developed and followed in order to further attend to individual needs based on the activities completed in class (see Appendix 1 for an example of the content and methodology followed).

Reflection on autonomous learning is a crucial factor, as students will need to work independently for many hours. In addition, it establishes the basis in the traditional in-class sessions and in a collaborative way for organizing a "realistic" personal and group plan to take an active role during the course. Students discuss different issues regarding the tasks and content with the instructor and course assignments are negotiated. This negotiation is always understood within the limits of a pre-established general programme that has been published in the students' guide in advance. The length of time to be spent on the projects, usually ranging from two weeks to more than a month, is also negotiated. Moodle not only serves here as a means for the individual to communicate with the rest of the group but also as a meeting point where doubts or questions are answered and where suggestions concerning how to better deal with an activity, task or problem are received (Figure 1).

Figure 1. View of Module 1 in the VLE Moodle with examples of activities.

The third and fourth modules take up the rest of the programmed time in the course, approximately 75-80%. In this part of the course, the students have acquired the routine of individual and group work. Regarding the collaborative activities, most of them are carried out in informal groups rather than in more formal ones. These modules are a priori based on more conventional decisions affecting the syllabus design in terms of learning aims – knowledge of textual forms and vocabulary in the area of Telecommunications; comprehension of specialized discourse; analysis of text type and audience; synthesis of information from diverse sources etc. – and learning outcomes: to take notes in conferences, meetings or debates; to recognize and to use typical expressions in different situations; to use the bilingual and monolingual dictionary; to organize information; to write a text; to adapt speech at the level of formality required by the context; to recognize different types of academic and professional texts, etc. As stated previously, a more expository approach is adopted in this part of the course in order to meet these course aims and outcomes agreed upon in the Department.

The modules "Job interviews" and "Presentations" follow a lexical-functional approach, with task- or content-based instruction and integrated general skills for those specific contexts. We should not forget the importance of grammar even within a communicative approach, as according to Widdowson (1990: 98): "On the contrary, it involves recognition of its central mediating role in the use and learning of a language". Brinton and Holten (2001) reported dissatisfaction on the part of the students enrolled in their content-based courses and called for more attention to grammar in response to their wishes and needs. Master (2000), on the other hand, suggested a more systematic treatment of grammar integrated within CBI using content as a point of departure for expanding the grammar explanation beyond the structure found in the materials and then linking back to the content.

Deciding on an approach to grammar instruction that fits CLIL is further complicated by the fact that students have differing opinions about the types of grammar instruction that they find helpful. However, the syllabus is adaptable enough to incorporate additional activities (as extra material or revision) both in the classroom and in the platform as they become useful in the learning process. It is worth emphasizing here the substantial amount of time and motivation needed to improve the instructors' own skills to adapt to this b-learning holistic approach, not to mention the difficult role of the

teacher as a "facilitator", always ready to adapt to the situation, to think of a more productive way to solve different problems and willing to incorporate new activities in the traditional class or on the platform, and who thus requires the technical knowledge needed to do so.

III.1.2. Course activities

In the CBI classroom, most of the activity types corresponded in the past to what Mohan (1986) calls experiential approaches. Experiential activities include role-plays, workshops, simulations, demonstrations and interaction with native speakers. In the new subject we are adopting a more expository approach which, according to the same researcher, relies on activities such as lectures, reading of articles and other texts, student presentations and classroom discussions, where content may be anything that meets the needs of our engineering undergraduates. Both kinds of activities, traditionally employed in the CBI classroom, are presented here within a constructive learning model where knowledge is constructed based on personal experiences (Halliday 1975, 1978). In this context, the focus is the project that learners attempt to fulfil; the problem drives the learning, while the students learn domain content in order to solve the problem, rather than solving the problem as an application of learning. In addition, the results of the class project come out in the form of LO, which has emerged as a new way of thinking about learning content. Learning objects are small, reusable, self-contained units of learning, typically ranging from 2 minutes to 15 minutes, and can be taken independently. Learning objects include descriptive information, allowing it to be found easily by conducting a search. In addition, it can be aggregated in larger course structures, including most traditional ones (Chiappe et al. 2007).

III.2. Project work

As described in the introductory sections of this work, the activities and tasks in the traditional class are presented within a constructivist model of learning. Based on previous experiences both in Spain and abroad (García Famoso 2005, Wilkinson 2008), our educational approach to this model is a problem-based learning one (Hernández Encuentra and Sánchez Carbonell 2005), wherein the acquisition of disciplinary content

is integrated by means of confrontation with "problems" of a technological nature. Learning is determined by prior knowledge as students are stimulated to seek new information to find solutions to "the problem". In broad terms there is only one: to create a Learning Object derived from the compulsory class tasks. On this occasion the class project is carried out by the whole group, as there are 12 students enrolled this semester. Therefore, the activity is strongly led by the instructor, which becomes an important factor to consider, as for good or for bad, the tutor's involvement might determine group functioning, interest and achievement.

III.2.1. Students

Although traditionally these groups of professional communication have been heterogeneous, in this second pilot semester the students are mostly enrolled in the speciality of Sound and Image. Nine students out of twelve are studying this speciality while the other three come from the speciality of Telematics.

III.2.2. Class project

In accordance with the students' background and interests, the class project is designed for them to develop activities related to their field of expertise. The final activity revolves around a job interview, the final product being a video showing typical questions and examples of desired answers at a job interview. In the module "Job searching", among other activities, students read, listen to and watch videos, role-play and reflect on typical job interview questions and suitable answers (see Appendix 2 for an example of the content and methodology followed). In the fourth week of the course students are introduced to the general idea of the final class project. This final project will be the focus of the group activity for the rest of the course and therefore must be carefully selected, in such a way that it becomes challenging and engaging as well as clearly structured and well presented.

The final product on this occasion is a 10-minute video in English with subtitles exemplifying ten questions and answers typical of a job interview. The students are informed beforehand that the TV studio will be available with the support of staff from the Department and that the software to edit the video will be provided. The students are

also informed that they will organize and develop the project plan, the instructor being regarded as part of the group, since she will provide advice concerning the use of language in the final draft of the script. Furthermore, in her role as a mediator between the group and the staff in the Department of Sound and Image, the instructor will attend to students' requests or further queries regarding the organization of the project. As agreed in advance, the video should be ready in about a month (four to five weeks).

Nonetheless, the class project is not limited to the development of a final product. The project will be completed by the end of the semester when the students in the group present the technologies, including the hardware or software used to produce the video. In addition, students are required to provide the technical details about the development of the activity, giving an opinion and reaching a final conclusion. During the last month of the course, the students are taught how to give presentations and how to write a proposal. As a final step, they will have to prepare the topic and give a presentation explaining every technical aspect influencing the class project activity. Examples of such topics could be the description of a TV studio and the advantages of working there, the illumination, or the features of the camera or cameras used. Other suitable themes include their choice concerning the software used to edit or to subtitle the job interview. The presentations are therefore fully integrated into the class project as a final task.

III.2.3. Assessment

In this framework, the evaluation of the students' activity cannot be limited to the assessment of a final product. In fact, the mark given for the final product should represent only a minimum percentage of the final mark. The assessment of the class project must necessarily consider a number of aspects to evaluate and, although the experience to be evaluated is "new", the assessment process and the weight attached to such different aspects are well grounded on previous experience.

In the preceding semester's pilot experience, the assessment of the course was based on two intermediate formal tests, where students were asked to complete activities mostly based on aspects of vocabulary and language use, but which also included writing and listening activities. These tests represented 40% of the course final mark. Although not integrated as part of a class project, there was a final task presentation activity in the

module "Presentations" that has been kept together with the 200 to 250-word proposal, which counted as 30% of the students' final mark. The remaining 30% was assessed through other activities completed during the course, both in and outside the classroom, involving the support of the VLE Moodle.

The assessment of the class project stems from this broad distribution of the breakdown of the evaluation after revising the time devoted to the different activities throughout the course. As we stated in previous sections, the adapted programme covers the first two modules including greetings, introductions, language learning and learning styles, as well as talking on the phone and e-mail writing in approximately 20-25% of the total course time. These modules are strongly based on language use and functional phrases which can be easily tested through a more conventional pen-and-paper procedure on the first test. Other aims of the first two modules (i.e. reflection on self-awareness or autonomous learning) are not evaluated here. While the third and fourth modules take up 75-80% of the course time, and it is precisely during this part of the course that the class project is developed, it is thus reasonable to base most of the evaluation on the process and the results obtained here. Therefore, the class project, including the students' work in the traditional classroom and in the VLE, the fulfilment of intermediate tasks, the final product as well as a final proposal and a presentation will represent 75% of the final mark for the course.

IV. RESULTS

The students show a great deal of interest when presented with the project. They have not had any previous experience in the TV studio, or this has been limited to a short practical carried out in groups, and thus they consider this chance a good opportunity to have a new experience. Typical job interview questions and their answers are prepared collaboratively based on the ideas presented in class. Guided by the instructor, students write the project layout on a wiki in the VLE Moodle, including the motivation of the project, the objectives, and describing the intermediate tasks and the final product, analysing the resources they will need and proposing a work schedule. The wiki allows the whole group to participate and registers their work. The students meet twice in the TV studio and answer one question each in front of the camera (a total of 12 questions

and answers). Furthermore, all of them answer two extra questions: "Can you tell me briefly about yourself?" and "What is the last book you have read or the last film you have seen?" These are the opening and closing questions that link the project with the first part of the course, which is when these topics are covered.

During the first part of the course, and also in order to answer the job interview questions, students have previously reflected upon their competences and abilities, as well as the importance of these factors in their role as engineers. When preparing their speech, students revise the professional content of the EPAC course, paying attention to their use of the language, key words, pace, intonation and body language, among others. Out of class time, but within the hours students must spend on the subject, they edit the videos and give them subtitles. At this stage students are involved in contents of their speciality, developing their research autonomously either in groups or individually, while dealing with instructional information on how to carry out these technical tasks. They share information and distribute the work load mostly through the VLE, as they need to be in permanent contact and have their decisions registered. The final product is a 13-minute video in English with subtitles exemplifying ten questions and answers typical of a job interview (Figure 2). Students must consider aspects of the language concerning accuracy. When writing the subtitles, they will detect some unavoidable language mistakes and while reviewing, they will have the chance to evaluate their own performance and achievements.

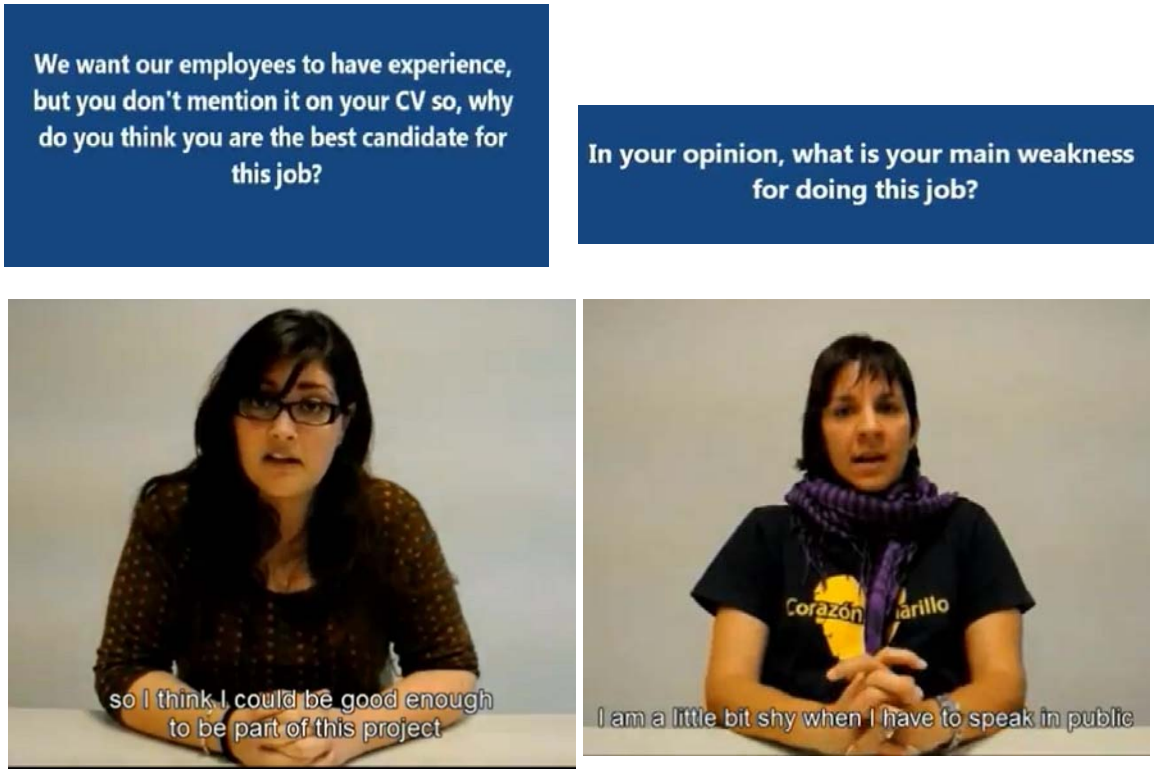

Figure 2. View of the final video with subtitles (with permission of the students).

At the end of the course, students hand in their work, evaluate and explain their part in the development of the final task and present one of the technical aspects related to the experience. At this stage of the course, they will reflect on their attitude towards the task and demonstrate knowledge of a particular technical aspect and the related vocabulary. To avoid spending too much time on the activity and in order to make the final presentations more dynamic, challenging and interesting, students use the Pecha Kucha[2] technique for their final presentations, in which accuracy, fluency and creativity are key elements (Figure 3).

[2] Pecha Kucha is a presentation methodology in which 20 slides are shown for 20 seconds each http://www.pechakucha.org

Figure 3. View of the Pecha Kucha session (with permission of the students).

Coming back to the competences of the Bologna process, the students report having put into practice most of the generic competences: instrumental, interpersonal and systemic competences, included in the Tuning (2000) list during the EPAC course. On a questionnaire where all the original Tuning competences were listed, 10 students in the group (two of them were not present) were asked to give a weight of 5 (much practice), 3 (some practice), 1 (less practice) or 0 (no practice) to the competences during the course, the results thus obtained being those summarized in Table 1, where the number (1-7) represents the skill weight as given by the students.

Table 1. Top 10 generic competences most practised during the EPAC course as perceived by the students.

Competences	**Much practice**	**Some practice**
Instrumental	1.Oral and written communication in *English* (Weight: 100%)	
Interpersonal	3. Teamwork 4. Interpersonal skills	6. Ability to communicate with experts in other fields
Systemic	2. Concern for quality 3. Capacity for generating new ideas (creativity) 5. Will to succeed 5. Ability to work autonomously	6. Capacity to learn 7. Project design and management (Weight: 60%)

Systemic competences are highly recognized by students as having been practised during the course, together with other much more evident interpersonal skills, such as teamwork. Let us call the readers' attention to the second in order of importance, "concern for quality", which in fact might be understood as one of the most difficult to programme in a course. Thus, those abilities must be assessed together with oral and written communication in English.

Assessment should be viewed holistically in a language and content integrated course, where students must demonstrate a range of capacities. In order to obtain this holistic view of the results, two skill categories have been distinguished apart from the most obvious instrumental one: a) teamwork and other interpersonal skills, and b) systemic competences. Both of these areas can be assessed through different alternative measures such as: skills checklists, anecdotal records and teacher's observation, student self-evaluation or performance-based tasks. Many of the alternative assessment measures proposed have been described previously (cf. Pierce and O'Malley 1992, or Short 1991) and therefore these will not be explained here. We will briefly conclude that these methods have the advantage of being quick, capturing the learning process vividly and offering opportunities for reflection as well as encouraging students' participation. The main disadvantage is probably that most of these methods are yes-no measures, whereby it is hard to show the students' progress, and thus they will not generally satisfy requirements of "accountability". As Short (1993: 635) put it: "The key is to select the type or types of assessment carefully and to focus consistently on the objective".

Communication competences, which play a key role in the EPAC course, have been separated from the rest in order to be assessed by means of other more extensively used procedures within CLIL courses, such as essays, e-mail or proposal writing, oral reports and presentations as well as personal interviews. On the whole, class project assessment results in positive back-wash (Alderson and Hamp-Lyons 1996) as assessment objectives fit the skills outlined in the course objectives and practised throughout the semester. Nevertheless, some standardized tests and pen-and-paper tests must continue to be used, although these may no longer be viewed as the only satisfactory means of measuring students' achievement.

Let us now come back to the concept of Learning Object (LO), which was presented in the introductory sections to this work in relation to the outcomes of the course. Modular and self-content material has been used in the EPAC course in Moodle, but can also be seen as a result in our context. The final product obtained from the class project will also be packaged in a format that allows its reusability and easy localization and will be part of the materials used in the EPAC classroom in further semesters within the EPAC course in the module "Job Searching" within the section entitled "Job Interviews". Materials renewal and update will also result from the students' development of LO.

As mentioned previously, the instructor has been closely involved with the 12 students throughout this experience, which on the one hand might have influenced satisfactory group functioning, but on the other resulted in an excessive workload for the teacher. When the number of students in the group reaches 30, the course organization and assessment must necessarily be thoroughly studied and detailed in advance, as any aspect of the course which has not been previously considered will inevitably result in a great workload for the teacher. The organization of the VLE in weeks instead of the option of modules selected here could be more practical and benefit not only the organization of the class project but also the continuous assessment process. Furthermore, although the class project is presented after a month as an assignment that is independent of the first part of the course, there is a clear transition and a solid connection between the first activities performed over the first weeks and the project itself. Both parts could be explicitly linked in order to organize the whole course within a long-term final project.

V. CONCLUSIONS

The proposal presented herein has been the product of years of adapting to new situations, which have resulted in a gradual awareness, study and revision of the different aspects involved in the learning process in our EPAC courses. The course project undertaken during the spring semester of the present year has exemplified the suggested holistic approach geared towards Content and Language Integrated Learning, where, in addition to communication skills and IT literacy, students get practice in a range of other general skills. Furthermore, the holistic approach aims to develop the

learners' autonomy, which is seen here as a capacity to take control of learning (Benson 2001, Sinclair 2000). The project design has included the description of general and specific aims also referring to skills and capacities, a final project to be developed and the necessary intermediate tasks scheduled for a set time. The methodology applied to the project assessment has also been reviewed, as well as the necessary resources to complete it.

Analysis and reflection on the specific aims achieved suggest that this offer is adequate in the framework of Telecommunication studies at tertiary levels, whilst providing a satisfactory example of integration of language, professional and academic content and specialized content together with other skills and capacities, including the use of technologies and autonomous learning. Nevertheless, it is worth emphasizing here the need for an urgent revision of the teacher's role as a facilitator in order to evaluate and regulate the cost-effectiveness of this new role demanded from lecturers within the European Area of Higher Education. Our feeling is the same as Bocanegra-Valle's (2008: 227) when she concludes from her CLIL experience that "[...] it was very demanding and time-consuming". Projects such as the one presented herein must be carefully modulated and transformed into more realistic and less energy-consuming proposals to be able to carry them out as a regular routine.

ACKNOWLEDGEMENTS

I wish to thank Professor Ceo-DiFrancesco (Ph.D., Xavier University, Cincinnati, Ohio) for her revision and encouraging comments on the final draft of this paper.

REFERENCES

Alderson, J.C. and Hamp-Lyons, L. 1996. "TOEFL preparation courses: A study of washback". *Language Testing* 13, 280-297.

Argüelles Álvarez, I. 2005. "Adaptación de materiales y TIC para el fomento del aprendizaje autónomo". *RESLA* 17/18, 19-33.

Argüelles Álvarez, I. 2006. "Algunas reflexiones sobre la participación de LO alumnos en la adaptación de materiales para el aprendizaje autónomo en IPA". *Mélanges CRAPEL* 28, 177-190.

Argüelles Álvarez, I. 2011. "New ICT literacies and holistic approaches for the effective learning of languages in tertiary education". *Odisea* 12, 53-76.

Argüelles I., Sendra J., Millán M., Blanco J., Herradón R. and Herington R. 2011. "TIC y aprendizaje integrado de contenidos técnicos y lengua inglesa en la EUIT de Telecomunicación UPM". In Maruenda-Bataller S. and B. Clavel-Arroitia (Eds.) *Multiple Voices in Academic and Professional Discourse: Current Issues in Specialised Language Research, Teaching and New Technologies*. Newcastle upon Tyne, UK: Cambridge Scholars Publishing, 428-441.

Benson, P. 2001. *Teaching and Researching Autonomy in Language Learning*. London: Longman.

Bocanegra-Valle, A. 2008. "Learning to learn in ESP: Fostering lifelong learning in European higher education under Bologna requirements". In Fortanet-Gómez I. and C. Räisänen (Eds.) *ESP in European Higher Education: Integrating Language and Content*. Amsterdam: John Benjamins, 213-232.

Brinton, D.M. and Holten, C.A. 2001. "Does the emperor have no clothes? A re-examination of grammar in content-based instruction". In Flowerdew J. and M. Peacock (Eds.) *Research Perspectives on English for Academic Purposes*. Cambridge: Cambridge University Press, 239-251.

Brown, H.D. 1981. **"**Affective factors in second language learning". In Alatis J.E. (Ed.) *The Second Language Classroom: Directions for the 1980´s*. Oxford: Oxford University Press, 113-129.

Chiappe, A., Segovia Y. and Rincón Y. 2007. "Toward an instructional design model based on learning objects". *Educational Technology Research and Development* 55 (6), 671-681.

Dafouz, E. and Guerrini, M.C. (Eds.) 2009. *CLIL across Educational Levels: Experiences from Primary, Secondary and Tertiary Contexts*. Madrid/London: Santillana Educación / Richmond Publishing.

Del Moral, M.E. and Cernea, D.A. 2005. "Diseñando objetos de Aprendizaje como facilitadores de la *construcción del conocimiento". In Proceedings of Simposio Pluridisciplinar sobre Diseño, Evaluación y Descripción de Contenidos Educativos Reutilizables (SPDECE),* Universitat Oberta de Catalunya, Barcelona. 9 May 2013 <http://www.uoc.edu/symposia/spdece05/pdf/ID16.pdf>

Ellis, R. 2003. *Task-based Language Learning and Teaching*. Oxford: University Press.

Fernández Fontecha, A. 2001. "Una selección bibliográfica sobre el método AICLE". *Contextos Educativos* 4, 217-239.

Gaffield-Vile, N. 1996. "Content-based second language instruction at the tertiary level". *ELT Journal* 50 (2), 108-114.

García Famoso, M. 2005 "Problem-based learning: A case study in computer science". In Méndez-Vilas, A., B. González-Pereira, J. Mesa González, J.A. Mesa González (Eds.) *Recent Research Developments in Learning Technologies*. Badajoz, Spain: FORMATEX, 817-821.

Gardner, R.C. 1985. *Social Psychology and Second Language Learning: The Role of Attitudes and Motivation*. London: Edward Arnold.

Gardner, R.C. and MacIntyre, P.D. 1993. "A student's contributions to second-language learning. Part II: Affective variables". *Language Teaching* 26, 1-11.

Halliday, M.A.K. 1975. *Learning How to Mean*. London: Edward Arnold.

Halliday, M.A.K. 1978. *Language as Social Semiotic: The Social Interpretation of Language and Meaning*. London: Edward Arnold.

Hernández-Encuentra, E. and Sánchez-Carbonell, J. 2005. "The Bologna process and life-long education: Problem-based learning". *Higher Education in Europe* 30 (1), 81-88.

Holec, H. 1987. "The learner as manager: Managing learning or managing to learn?" In Wenden, A. and J. Rubin (Eds.) *Learner Strategies in Language Learning*. London: Prentice Hall, 145-156.

Holme, R. 1996. "Negotiating needs and course content". In Holme, R. *ESP Ideas*. London: Longman, 6-15.

Kasper, L. F. 1997. "The impact of content-based instructional programs on the academic progress of ESL students". *English for Specific Purposes* 16 (4), 309-320.

Master, P. 2000. "Grammar in content-based instruction". In Kasper, L.F. (Ed.) *Content-based College ESL Instruction*. Mahwah, NJ: Lawrence Erlbaum, 93-106.

Mohan, B.A. 1986 *Language and Content*. Reading, MA: Addison-Wesley Publishing Company.

Murphy, E. 2004. "Moving from theory to practice in the design of web-based learning using a learning object approach". *E-Journal of Instructional Science and Technology* 7 (1), 1-17.

Nunan, D. 1993. "Task-based syllabus design". In Crookes, G. and S. Gass (Eds.) *Task in a Pedagogical Context: Integrating Theory and Practice*. Clevedon, England: Multilingual Matters, 55-68.

Pierce, L.V. and O'Malley, J.M. 1992. *Performance and Portfolio Assessment for Language Minority Students*. Washington DC: National Clearinghouse for Bilingual Education.

Schumman, J.H. 1986. "Research on the acculturation model for second language acquisition". *Journal of Multilingual and Multicultural Development* 7 (5), 379-392.

Sercu, L. 2004. "The introduction of English-medium instruction in universities. A comparison of Flemish lecturers' and students' language skills, perceptions and attitudes". In Wilkinson, R. (Ed.) *Integrating Content and Language. Meeting the Challenge of a Multilingual Education*. Maastrich: Maastrich University, 547-555.

Short, D.J. 1991. *How to Integrate Language and Content Instruction: A Training Manual*. Washington DC: Center for Applied Linguistics.

Short, D.J. 1993. "Assessing Integrated Language and Content Instruction". *TESOL Quarterly* 27 (4), 627-656.

Sinclair, B. 2000. "Learner autonomy: The next phase?" In Sinclair B., I. McGrath and T. Lamb (Eds.) *Learner Autonomy, Instructor Autonomy: Future Directions*. London: Longman, 4-14.

Skehan, P. 1996. "A framework for the implementation of task-based instruction". *Applied Linguistics* 17 (1), 38-62.

Tuning Educational Structures in Europe 27 October 2012 <http://www.unideusto.org/tuningeu/>

Unterberger, B. and Wilhelmer, N. 2011. "English-medium education in Economics and Business studies. Capturing the status quo at Austrian Universities". *International Journal of Applied Linguistics* 161, 90-110.

Widdowson, H.G. 1990. *Aspects of Language Teaching*. Oxford: Oxford University Press.

Wilkinson, R. 2008. "Locating the ESP space in problem-based learning: English-medium degree programmes from a post-Bologna perspective". In Fortanet-Gómez I. and C. Räisänen (Eds.) *ESP in European Higher Education: Integrating Language and Content*. Amsterdam: John Benjamins, 55-74.

Received: 30 May 2013
Accepted: 18 August 2013

Cite this article as:

Argüelles Álvarez, I. 2013. "A holistic experience in the integrated learning of specialized English and content in engineering degrees", *Language Value* 5 (1), 48-75. Jaume I University ePress: Castelló, Spain. http://www.e-revistes.uji.es/languagevalue. DOI**:** http://dx.doi.org/10.6035/LanguageV.2012.5.4

ISSN 1989-7103

APPENDIX 1
EXAMPLE OF CONTENT AND METHODOLOGY

Session 1: Introductions, greetings and learning needs

(2 hours class + 2 hours homework)

Warmer	5-10 min.	Students greet one another using correct formulae and body language
Brief presentation of the course	10-15 min.	Students should have read the guide, so the presentation can be based either on specific questions about the course or on any other possible questions they may have. Activity: in groups of five, students are asked to share two things connected with the course they already know and to prepare two questions. After 5-7 minutes results are shared and questions regarding the subject are answered by the instructor. Debate.
Paper copies "Language skills"	20-30 min.	Students prepare their answers to questions about their learning styles. Students prepare their answers in groups of three (10-15 min.) Whole group debates the answers to the questions (10-15 min.)
	50 min.	
Video "Language skills"	20-25 min.	Activities including revision of expressions used in the video, grammar or vocabulary.
Needs analysis	20-25 min.	In new groups of three: personal needs and group needs; then, whole group debate.
Wrap up	5-10 min.	A learning challenge! Students think for one minute and say aloud the most important problem they have as students of English and how they expect to solve it.
	50 min.	

Homework: Students complete the activities in Moodle. Content of the session, linguistic aspects and grammar or vocabulary are reviewed in questionnaires or open-ended activities.

APPENDIX 2
EXAMPLE OF CONTENT AND METHODOLOGY

Session 12: Preparing for a job interview III

(2 hours class + 3 hours homework)

Warmer	5 min.	Greetings, revision of phrases in a formal situation, body language.
Video "DOs and DONTs at a job interview	15-25 min.	Whole group watch the video in http://www.youtube.com/watch?feature=player_embedded&v=S1ucmfPOBV8 (10 min.). Students take notes and exchange their information in pairs (5 min.). After watching the video again, whole group share information (10 min.).
Could you tell me about yourself?	15-20 min.	Students prepare a brief answer to this question in pairs; students exchange pairs and ask and answer the question (10-15 min.); whole group revise content, grammar and vocabulary (10 min.).
	50 min.	
Lesson "Job interview techniques"	10-15 min.	In pairs, students read the questions and answers proposed and complete information gap activities (5-10 min.). Comments and questions (whole group 5 min.).
Reading texts: "Getting ready for a job interview"	25-30 min.	Pair-work. Either using laptops or printed on paper students read texts where advice is given about how to prepare for a job interview (see for example results in Google for "getting ready for a job interview"). Students take notes and revise if there is any new information to add to that studied during the sessions or through the activities in Moodle (15 min.). Whole class feedback (10-15 min.).
Wrap up	5-10 min.	Select the three most difficult questions to answer from the ones studied during the module. Share your list.
	50 min.	

Homework: Students complete the activities in Moodle. Content of the session, linguistic aspects and grammar or vocabulary are revised in questionnaires or open-ended activities.

Language Value December 2013, Volume 5, Number 1 pp. 76-106
http://www.e-revistes.uji.es/languagevalue ISSN 1989-7103

Teacher Targets: A model for CLIL and ELF teacher education in polytechnic settings

Carmen Sancho Guinda
carmen.sguinda@upm.es
Universidad Politécnica de Madrid, Spain

ABSTRACT

The objective of this paper is to present an alternative model for CLIL/ELF teacher education, called the *Teacher Target Model,* which may help hard-science teachers undertake English-medium instruction more efficiently. Conceived as a visual educational trope for changing mentalities and practices, it derives from the needs analysis of a group of polytechnic teachers who have participated in the cycles of in-service training seminars given at the Polytechnic University of Madrid since 2009. Their notions, impressions, and video-recorded performances reveal that in general they hold a monolithic conception of classroom interactions and teaching procedures, with an ensuing impoverishment of genre and language repertoires. To bridge this gap, the model proposed here cross-weaves five discursive strands converging in university lectures, namely *disciplinary discourse*, *(meta)discourse of the medium*, *embedded genres*, *lecture phase*, and *teaching style*, thus fostering natural communication beyond the delivery of technical content and bringing ELF instruction closer to the CLIL dynamics.

Keywords*: CLIL, ELF, teacher education, polytechnic environments, language and genre repertoires*

I. THE HOLISTIC TURN IN EUROPEAN TERTIARY EDUCATION: MOVING ON TO *CLIL*

One tenet of CLIL instruction, and by extension of any committed and student-centred variety of teaching, especially in a lingua franca, is that knowledge should no longer be transmitted as it has traditionally been in the conventional L1 lecture, since the focus is not solely on content but also on language and on the *engagement with students* (Ball and Lindsay 2013). While the language focus implies the belief that all teachers are teachers of language (Bullock 1975) and therefore their lexis, grammar, pronunciation, prosody, register and pragmatics must be as accurate and appropriate as possible, the engagement with learners embraces the need for efficacious *metadiscursive and metalingual guidance* to assist comprehension (Costa 2012, Dafouz 2006, Dafouz et al. 2007, Dafouz and Núñez 2010, Fortanet-Gómez and Bellés-Fortuño 2008, Mauranen 2006, 2009, Morell 2004a, Sancho Guinda 2010), a more *democratic and dialogic classroom dynamics* with richer forms of interaction that enable active participation and

DOI: http://dx.doi.org/10.6035/LanguageV.2013.5.5

a realistic acquisition of the language (Coonan 2007, Foran-Storer 2007, García 2009, Guazzieri 2007, Hynninen 2012, Morell 2004b, 2007, 2009), and a series of *pedagogical adjustments* (Abedi 2009, De Marco and Mascherpa 2011, Echevarria and Graves 1997, Foran and Sancho 2009, Hondris et al. 2007, Shohamy 2013, van der Walt and Kidd 2013) to foster all the former and in addition autonomy, motivation, and the development of academic, interpersonal, multicultural, and even certain instrumental abilities, such as digital expertise. For over twelve years now, the Bologna Process has been driving the education offered by our European universities towards this holistic philosophy, by encouraging English-medium instruction (henceforth EMI) to stimulate mobility and introducing 'transversal skills' in the curricula to meet social demands. Thus, we could say that higher education in Europe, as Foran (2011) has noted in ESP scenarios, is on the whole undergoing a process of *'clil-ization'*.

The question is: Are university content teachers prepared to face the challenge posed by these changes and *clil-ize* their teaching? This query invites a second one: How can we applied linguists help them achieve it? Starting from in-service training experiences at the Polytechnic University of Madrid (hereinafter UPM) – from an analysis of engineering teachers' perceptions and their recorded didactic performances – in this paper I try to find an answer in my own institution and present an alternative reworked model for EMI teacher education to bridge the gaps detected. I will first probe into the impressions and pedagogical procedures of my informants and then describe the model they have inspired. With it I intend to contribute to raising an awareness of the complexity and versatility of classroom discourse among teachers, and ultimately to changing mentalities and broadening practices in technological university settings.

II. THE SITUATION IN MY LOCAL CONTEXT: TEACHER-TRAINING AT THE UPM

Unlike primary and secondary schools, where a bilingual CLIL methodology has been implemented according to systematic plans, the internationalization of many universities in the Madrid region seems rather left to the capacities and motivation of staff and to the linguistic proficiency of students, assumed responsible for their familiarity (or prowess) with academic genres. At the UPM, internationalization via teacher-training is not indeed a priority and depends on the individual initiatives of

language instructors to support their content colleagues in undertaking EMI, always welcomed and channelled through the Institute of Educational Sciences (*Instituto de Ciencias de la Educación* – ICE for short). One of those initiatives is the seminar *"Preparación del docente para la enseñanza de contenidos técnicos en lengua inglesa dentro del EEES"* ('Teacher-training for the EMI class within the EHEA'), which I have taught to over fifty engineering instructors (an average of 16 participants per course) throughout four successive editions between 2009 and 2012. The seminar sessions, which total 20 hours, cover a wide range of aspects within the linguistic and learning dimensions. The linguistic dimension gathers phonetic, intonation, lexico-grammatical, body language, and sociopragmatic guidelines. Among the latter, metadiscourse repertoires, politeness and conventions of academic genres, register features, and expressions for basic interpersonal communication skills (BICS) and cognitive academic language proficiency (CALP) – both terms coined by Cummins (1996) – are provided and explained. The learning dimension includes desirable classroom methodologies (e.g. interactive lectures, case studies, class discussions, team and project work), routines (e.g. question-answer sequences, preparatory readings) and tasks (e.g. realistic ones involving self-documentation, data representation and verbalization, problem solving and decision-making), together with their associated language. Special emphasis is laid on the phases and signalling of the lecture (Young 1994), reviewing the metadiscursive repertoire introduced in the linguistic dimension.

After a diagnostic performance (a reduced lecture up to 45 minutes long on an accessible concept from their disciplines) and a subsequent evaluation by peers and the teacher in a class discussion, the seminar participants watch different online videos of engineering lectures from the University of Stanford, available on *YouTube* (Stanford University Online). In pairs or small groups they take notes of teaching strategies (e.g. pace and tone, humour, asides, questions aimed at getting an answer, emphatic body language, interruptions allowed for students' questions and comments, read-outs simultaneous to blackboard calculations, etc.) to discuss their possible effectiveness in their own classes. Then, the language and teaching dimensions are taught gradually in each session by means of oral and written exercises, practical cases, discussions, and group evaluations of lecture exemplars from the MICASE corpus (The University of Michigan-English Language Institute) akin to their subject matters, given by speakers

with a similar academic status, native or non-native, to comparable audiences (undergraduate or graduate, junior, senior or mixed), and with diverse degrees of interactivity. The diagnostic evaluation of lectures mentioned above, made by students and teacher in discussion form, is normally accomplished with a rubric negotiated beforehand, which contains the parameters from the language and learning dimensions they deem most important, and will serve later to assess a second round of volunteer peer lectures. Trainees may also look at and comment on other didactic genres in the MICASE samples, like for example colloquia, seminars, study groups or laboratory demos, to incorporate them into their methodologies, either as full sessions or as embedded genres within the lecture.

The overall objective of the seminar is, in sum, to facilitate *clil-ization*; that is, the expansion of learning scopes beyond content in the attendees' future classes, making them more participative, cooperative, multimodal, varied, and oriented towards language and transversal skills. To that end, it tries to instil in the participants a methodological awareness as much as a metalinguistic one because, as some CLIL researchers have remarked (Fortanet-Gómez 2013, Klaasen and Räsänen 2006), general language proficiency and fluency may be indicators of being able to function in an educational context, but do not determine the qualification of staff, who must also reflect on teaching, be flexible to involve students in active learning, and select the pedagogical strategies and techniques that best fit the class's needs. Drawing on Smith and Simpson's (1995) catalogue of teaching competencies for higher education faculty members, the course pays detailed attention to presentation and communication skills, but also to interpersonal ones and indirectly to planning issues.

III. THE STUDY

The study reported here combines qualitative and quantitative methods to depict the starting point of UPM instructors before committing to EMI. There are two overarching research questions: How participative do they think their teaching is? And how do their beliefs differ from their practices? In answering these two questions a third one emerges: Are the performances analysed discursively rich and engaged with student audiences? Put another way: How much do UPM content teachers resort to genre-

embedding and with what type of rhetorical progressions? What engagement devices do they adopt? As will be seen, findings uncover a sharp mismatch between the perceptions and opinions concerning their own teaching craft and their actual performances.

III.1. Method

III.1.1. Data collection and coding

A group of 18 teachers enrolled in the seminar 'Teacher-training for the EMI class within the EHEA' volunteered to complete a brief questionnaire on their didactic strategies, their assumptions about EMI, and the main difficulties and limitations they thought they would encounter. The questions were the following:

1) What is your usual teaching dynamics? (More than one option is possible)
    a. Teacher-delivered lecture
    b. Team- and pair-work
    c. Autonomous learning (laboratory sessions, multimedia support, reading packages prepared by the teacher, project work, guided visits)
2) Do you consider your classes participative enough?
3) What participation rate student/teacher best describes your classes?
4) Do you think that rate should be increased? If not, indicate why.
5) What do you think should be the ideal rate?
6) Mark your habitual teaching practices:
    a. Start the class inductively (with familiar facts or phenomena or concrete examples to captivate the audience's interest)
    b. Start the class deductively (with a general law, principle, or theory)
    c. Start the class with tangible objects or authentic reports
    d. Draw connections between previous contents
    e. Repeat/rephrase certain points during the class
    f. Ask questions to students
    g. Use rhetorical questions
    h. Exemplify and clarify

i. Summarize class contents at the end
j. Anticipate contents of the current class
k. Anticipate contents of the next class
l. Let other colleagues supervise your classes

7) Do you slow down your teaching pace according to the class's level and needs? And insist more on certain parts of the syllabus?
8) What difficulties do you think you will face when teaching in English?
   a. The technical vocabulary of your discipline
   b. The situational vocabulary of class interaction
   c. The expressions and structures to formulate hypotheses, conclusions, arguments, verbalize graphic information, evaluate the credibility of information sources, etc.
   d. The expressions and structures to link ideas, emphasize relevant points, summarize, illustrate, contrast, describe, define, express attitude, etc.
   e. The expressions and structures of written English to do online tutorials and corrections, conduct debate forums, or send e-mails
   f. English pronunciation
   g. Students' low proficiency in the English language
   h. Students' mixed abilities in English
   i. Assessment issues
   j. The need to slow down your teaching pace to ensure the assimilation of contents
   k. The elaboration of class materials
   l. The adoption of adequate teaching methodologies
   m. Your aural comprehension skills to understand what students say
   n. Collaboration with other colleagues to plan contents and methodology

Of the 18 instructors who completed the questionnaire, ten consented to be video-taped in their diagnostic classes. The recorded lessons, on miscellaneous topics (see Table 1), totalled 174.08 minutes and were unexpectedly short.

Table1. Lecture corpus.

LECTURE	LENGTH (in min)	TOPIC
1	15.54	Introduction to road construction projects
2	17.55	Source coding
3	14.33	Soils compaction
4	21.20	Sustainable energies
5	14.35	Cartographic systems
6	16.08	Software designs
7	18.02	Noise-absorbing properties of reed in fitting acoustic enclosures
8	16.59	µ-controllers in electronic systems
9	17.00	Thermal treatment of wastes
10	21.42	Properties of wine and their evaluation
TOTAL	**174.08**	———

Observations were made with the aid of a tabulated checklist template (Brown and Rodgers 2002, Dörnyei 2007) according to six interrelated parameters: *Teaching style* (Ogborn et al. 1996), *learning boosters, structural lecture elements* (adapted from Young 1994), *embedded genres, academic and metadiscursive language functions* (Dalton-Puffer 2007, Hyland 2005a), and *engagement features* (Hyland 2005b). Teaching style (i.e. visualizer, co-thinker, storyteller, verbalizer and operator) influences the insertion of genres in the lecture matrix (e.g. conversation, story or anecdote, brief case study, procedural description, problem-solving, demo or experiment, discussion, or others) and the choice of learning boosters (e.g. blackboard notes and figures, mind

maps, *PowerPoint* slides, photographs, videos, the Internet, handouts, realia, and inserted tasks or demos). As for the remaining three parameters, structural elements have been simplified to facilitate analysis and confined to 'starts' (inductive, deductive or 'hands-on'/tangible), 'introduction' (either through elicitation, brainstorming, problem- or task-setting, teacher's monologues and conversations with students), 'progression' (contrastive, argumentative, descriptive and narrative – based on a chronological, cause-and-effect, or problem-solution pattern), 'recapitulation' (progressive or final), and 'closure' (visual, verbal, through a stereotyped or self-made formula, a round-off summary, or a given assignment). The academic and metadiscursive functions studied comprise goal-announcing, sequencing, stage-labelling, endophoric pointing, topic-shifting, definition, glossing or clarification, classification, exemplification/illustration, inference, enumeration, contrast, marking of relevance, and problem-solving.

Lastly, the engagement items examined, those of Hyland's (2005b) taxonomy, included the use of personal pronouns referring to the audience (as a sign of interactivity), asides, directives, expressions of shared knowledge, and questions. We should not forget, though, that metadiscourse in general, good lecture structuring, certain embedded genres such as demos, stories and anecdotes, and first-person pronouns referred to the speaker (as a sign of involvement and self-disclosure) may also be taken as engagement features. Furthermore, it is important to bear in mind that the engagement conveyed by the various kinds of questions (attending to Tsui's 1995 typology) differs in purpose: to arouse interest, expectations and reflection (rhetorical questions), to work as interactive reminders or knowledge-recall devices (display questions), and to elicit unknown information from the student (referential questions). Not every teacher knows this distinction and sometimes rhetorical and display questions are erroneously interpreted as symptoms of an interactive, dialogic lesson.

III.1.2. Participants' profile

My 18 informants were subject-matter teachers from the technical schools of Aeronautical, Agricultural, Civil, Forestry, Mining, Naval, and Telecommunications Engineering, and the faculties of Architecture and Informatics. Their mean age was 41.6 years old, with 17% of individuals in the band between 25-35, 44% between 36 and 45,

and 39% between 46 and 55. Their mother tongue was Spanish in all cases except two – one a native speaker of German and the other one of Galician. No-one had taught in English before, despite the fact that their level of knowledge ran from B1 to C1 and many (13 subjects) had earned diplomas, most of them certifying high-intermediate levels of proficiency, from prestigious national and international institutions: Escuela Oficial de Idiomas, The British Council, TOEFL, and Oxford and Cambridge Examinations. When asked to evaluate their abilities in the English language on a scale from 1 to 5, where 5 stands for the highest level of command, they reported being more competent in the receptive skills (written and oral comprehension, with mean scores of 4.2 and 3.8 respectively) and less in the productive ones – written expression, with a mean score of 3.7, and oral expression, which ranked last with 3.1. This disparity between types of skills, to the detriment of oral communication, makes them feel insecure under the so-called 'native speaker fallacy' (Klaasen and Räsänen 2006), which may bias students' judgments over the pedagogical competence and credibility of their instructors (Maum 2002). Interestingly, such generalized insecurity coexists in tension with the unanimous belief that it is not their job to teach language, which is in line with the findings of other investigations into teachers' attitudes about EMI (Airey 2012).

III.2. Perceptions and performances

Perceptions and performances are closely intertwined. Teachers' notions of participation and autonomy, their assumed responsibilities, classroom routines and interpretations of student behaviour coalesce with institutional policies and shape teaching practices.

III.2.1. Perceptions: Linguistic over strategic concerns

A vast majority of respondents (72.2%) found their classes participative enough and for slightly less than half (44.4%) increasing students' involvement was not necessary. This conviction had been stirred up by the apparent lack of interest of senior undergraduates in extra assignments, tasks and projects, as they frequently dodge or plagiarize them to get them out of the way quickly and obtain their degree, and by the fact that junior undergraduates lack the theoretical background that would enable them to take an active part in those activities. It is somehow surprising that what informants consider

'participative enough' is a habitual class dynamics chiefly consisting in the traditional teacher-centred lecture (see Figure 1, where the vertical axis indicates the number of teachers), accompanied by a relatively high incidence of 'autonomous learning' and little group work.

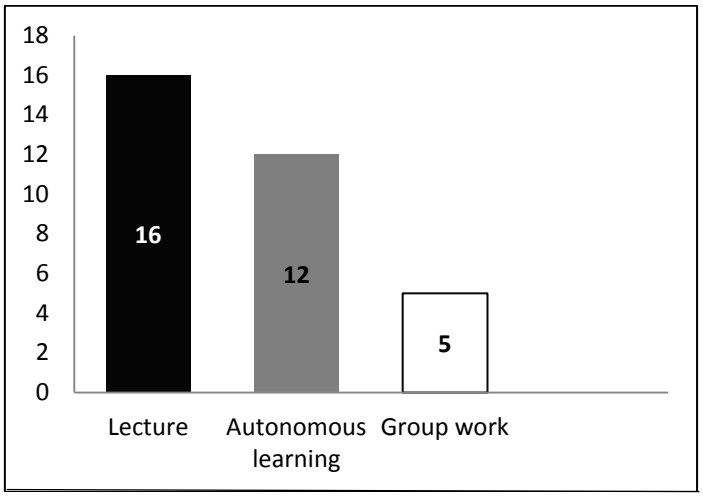

Figure 1. Usual class dynamics of UPM content teachers (self-reported).

'Autonomous learning', however, is too vague a term to draw solid conclusions about student participation and for that reason its constituents have been specified in Figure 2. In it we can observe that autonomy is not sought through before-class readings at all, and that the predominant dynamics is the laboratory session, followed by visits to companies, institutions, centres, or facilities. Because both do require the presence of some monitor or tutor, who often monopolizes talk and attention by giving instructions or even presentations and mini-lectures, the attainment of full autonomy on the students' part is questionable. In contrast, multimedia learning and project works without teacher intervention, which confront learners with content, procedural and media hurdles, are well below the other two alternatives.

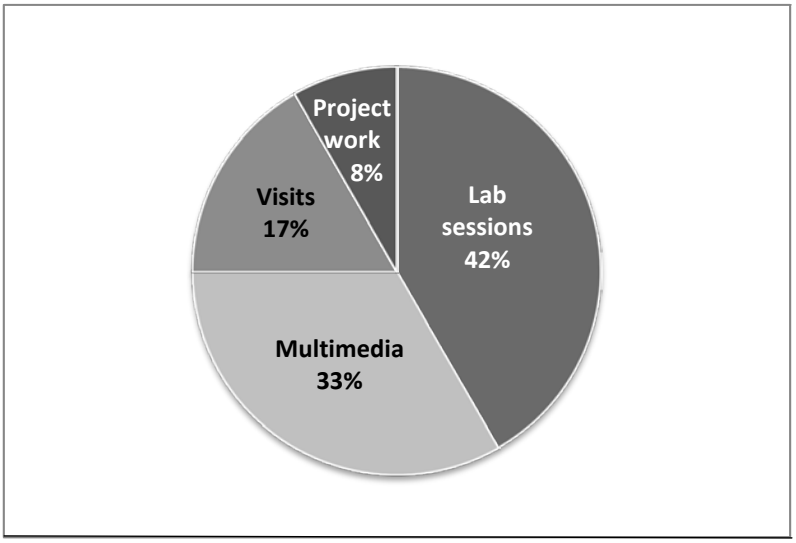

Figure 2. Breakdown of 'autonomous learning' as usual class dynamics at UPM (self-reported).

If we now turn to proportions (Figure 3), we may wonder about the notion of 'participation' UPM teachers really have. The compound percentages quantify the degree of intervention by students (the first figure, before the hyphen) and by teachers (the second figure, after the hyphen). 6% of informants, for example, rule their class time completely (100%) with monologic lectures, leaving students no chance to participate. Actually, teachers control their lectures to a large extent (at least 75%) in 67% of cases, and the frequency of egalitarian ratios is scant (22%). A similar pattern was exhibited by the ideal participation rates they suggested: only 33% of them showed an accurately balanced share of control by student and teacher (50-50%), while the rest displayed teacher quotas ranging from 60 to 80%, smaller in practical subjects and bigger in theoretical or descriptive ones.

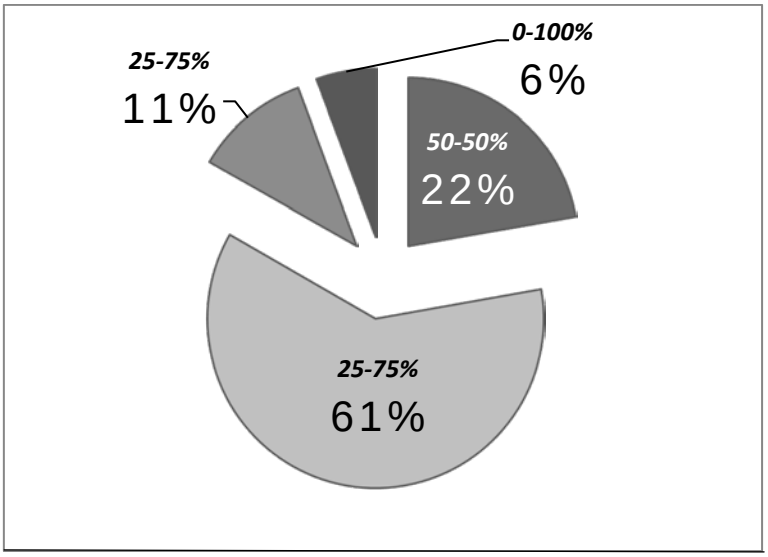

Figure 3. Habitual rate of participation (self-reported) in the lectures of content teachers at UPM.

Regarding their teaching practices, all informants coincided in relating current and previous class contents (Figure 4), and also very common were the anticipation or outlining of the content to be delivered in the present class, exemplification, illustration and clarification, and the use of questions – rhetorical and addressed to students, the latter being employed more often. Around half of the teachers advanced the content of next classes, summarized the lesson just given, repeated its major points for better assimilation, and started their delivery inductively with concrete examples or familiar facts to kindle interest and curiosity. Less customary were the deductive and hands-on or 'tangible' lesson openings (i.e. showing objects, materials or authentic documents).

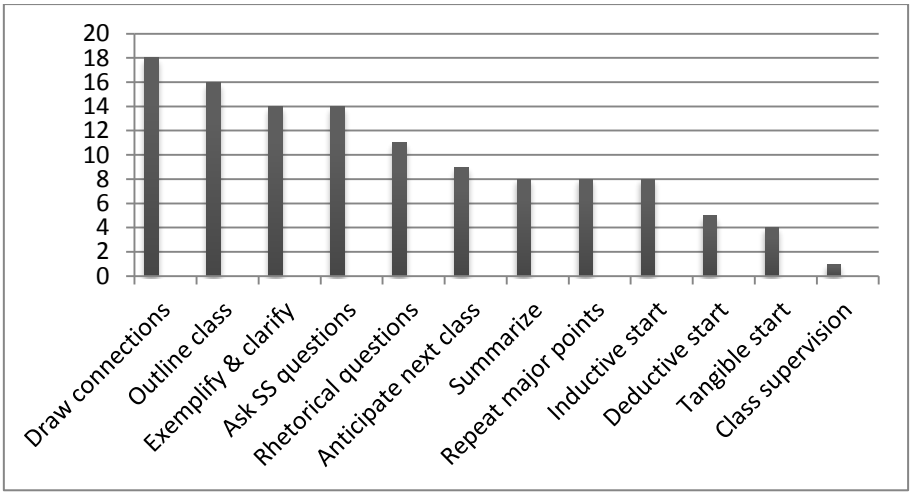

Figure 4. Habitual teaching practices (self-reported) of UPM content instructors.

A striking finding is the slight occurrence of class supervision by colleagues (reported by only one individual) in subject matters that may be programmed and taught collaboratively by more than one teacher from the same department or by colleagues from different departments. Developing and maintaining communication and collaboration among the faculty is, as Crandall and Kaufman (2002) state, a steep challenge in content-based instruction at higher education levels, especially between content and language teachers. Firstly, because such collaborative practices are not institutionally rewarded, and secondly, because there is no one model. The instructor in question disclosed that in his case collaboration was applied to the mere supervision of content coverage.

A quick look at Figure 5 (where the horizontal axis represents the number of respondents, 'T' stands for 'teacher' and 'SS' for 'students') reveals that collaboration with colleagues, class dynamics, materials and evaluation – all of them unmentioned – do not worry my informants as future EMI obstacles. On the contrary, their primary concerns are, in equal measure, the language needed for class interaction (BICS) and the use of metadiscourse to link ideas and lesson stages. Their pronunciation of English and the correct expression of academic cognitive functions (CALP) are the next most important issues. Other teacher abilities, such as aural comprehension in face-to-face classes and writing repertoires to interact in virtual environments are secondary, and the impact of disciplinary vocabulary is negligible, only affecting a minority of novice staff. Methodology is certainly implicit in difficulties such as mixed-ability classes, students' low proficiency in English and the need to slow down teaching pace, but this link goes unnoticed to UPM teachers, who in a conferencing session asserted that the acquisition of BICS and CALP skills is the learner's responsibility and did not connect slowing down the teaching pace with methodological adjustments, but exclusively with repercussions on the fulfilment of the syllabus.

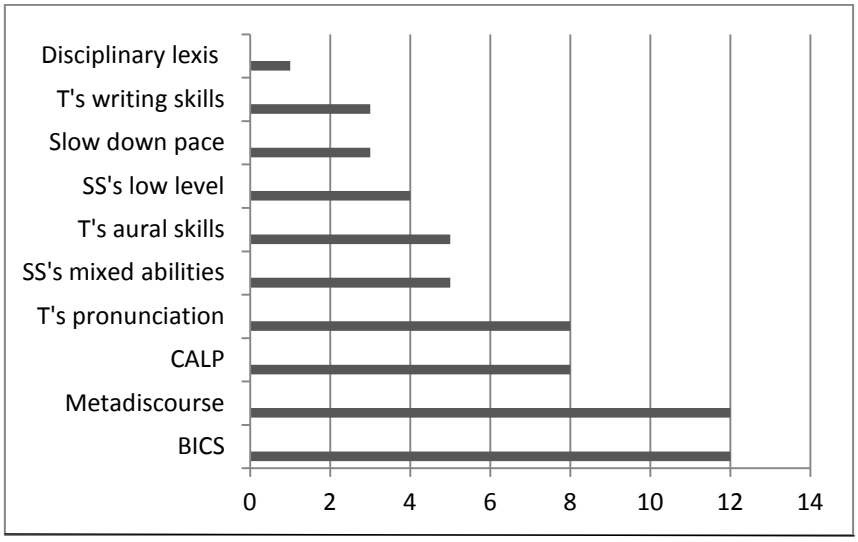

Figure 5. EMI difficulties as predicted by UPM teachers.

Neumann et al. (2002) attribute this disregard of pedagogical matters shown by hard-science instructors to their stronger commitment to research than to teaching. At the UPM, in effect, technical research and patenting are valued over teaching rankings and action research as signs of prestige and career achievements. Consequently, the belief among members of polytechnic staff that what counts is the commercialization and transmission of research, and not so much the way in which it is passed on to younger generations, is widespread.

III.2.2. Performances: The inertia of low-risk choices

For their diagnostic lessons, all volunteers opted for a lecture-centred model in a condensed conference presentation format (the average length of the talks was 17.4 min), presumably because it is a 'safe genre' on which to be evaluated, more expositive than interactive and with very narrow margins for negotiating expert roles, as the presenter holds absolute authority. In other words, they chose an updated variant of the 'chalk-and-talk' class (Mason 1994) – based on *PowerPoint* slide shows, a monological and prepared speech (Flowerdew 1994), and therefore little BICS, their most feared obstacle. The language they used was informal (Giménez Moreno 2008), that is to say, relaxed, with emphatic gestures, personalizations, verbal contractions, and simple connectors – let us remember that metadiscourse was their second worry after BICS when teaching in English and they logically stuck to what they already knew and avoided experimenting with variation. Most speakers were *visualizers* (nine out of ten

relied heavily upon visual devices as learning boosters – see Figure 6, where the vertical axis represents the number of lectures) and just one delivered content without them, although he resorted to blackboard notes. None did web-based teaching.

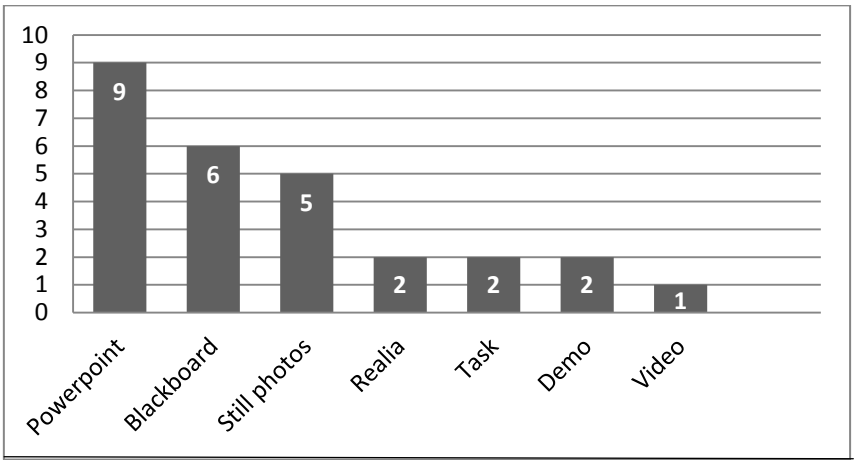

Figure 6. Use of learning boosters.

Of the nine visualizers, seven combined this style with other strategies and also became *co-thinkers* (embarking on a joint problem-solving task) or *operators* (manipulating realia brought to class or objects found in the room and used as improvised realia). There were no *storytellers* inserting narratives or anecdotes and only one (the teacher who did not use *PowerPoint*) came close to encoding knowledge in a catch-phrase or stereotyped structure (Example 1). However, it was not reiterated all throughout the lesson or in a listen-and-repeat pattern, as true *verbalizers* do (Ogborn et al. 1996).

(1) Ways of evaluating wine. In wine-testing there are four or five senses (digression). The rule is very simple. It is a 'four-S' rule: the first thing is SEE. So, the second is SMELL or SNIFF, the third is SWIRL, then is SIP and the last part is SUMMARIZE. (Speaker writes four capital 'Ss' and then the terms on the blackboard). [L10]

Genre-embedding was scarce and fundamentally consisted in process or procedural descriptions (Figure 7). Conversational exchanges (Example 2) took place for the most part while contextualizing the lesson, in its introductory phase, or in those lectures which, in addition to a final round of questions, the audience could spontaneously interrupt to comment on or add content and have their doubts cleared.

(2) So, I want to ask you first how many of you know the 'Guitar Hero' game? I don't know how many of you… (one listener raises her hand) You? Do you know it?
So you know it? Have you tried it?
_ (Listener) I have tried it once.
Somebody else has tried it? No? What was your impression?
_ (Listener) Horrible.
(General laughter) [L8]

Discussions, case studies and stories were absent in every performance, and tasks and problem-solving, disguised as joint ventures due to their enunciation with the collective and inclusive pronoun 'we', were in the end led solely by the speaker, far from promoting autonomous learning.

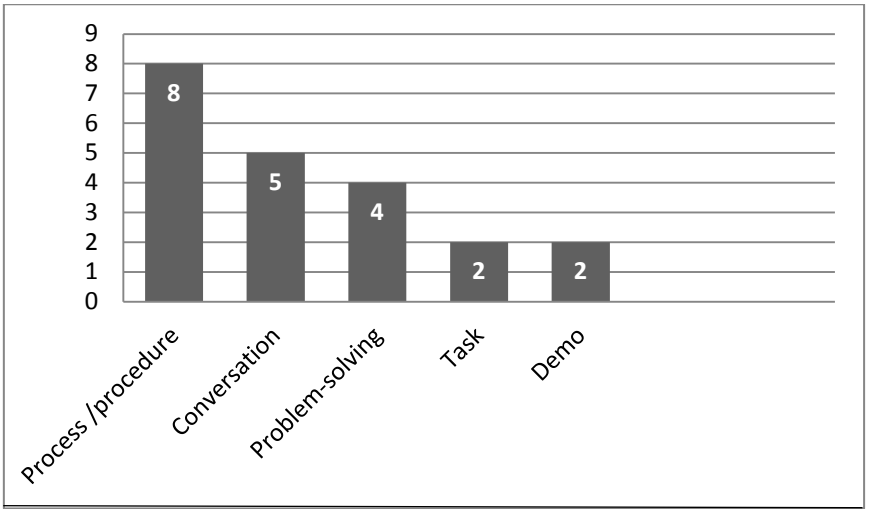

Figure 7. Lectures with embedded genres.

Structurally, the lectures were fairly complete. Introductions were made outlining the points to be touched on during the talk, in a slide devoted to that purpose (eight cases), simultaneously reading or paraphrasing them (six presenters), jotting them down on the blackboard (one lecturer), or just mentioning them (one teacher). Two speakers made use of elicitation through direct referential questions, but brainstorming, citation and quotation were untapped resources. With the exception of two lecturers, who used impersonal syntactic subjects in combination with second-person pronouns, (Example 3.a) and the first-person plural pronoun (3.b), the rest stated the contents and objective of the talk by speaking in the first-person, thus making delivery more vivid (Example 3.c).

(3) a. The main objective of this class is that you understand the concept of thermal treatment. [L9]

b. We present three items about that. First is how the energy becomes accessible… [L4]

c. I am going to talk about wine. How it is produced and how we enjoy wine. [L10]

Contrary to the self-reported teaching habits in the questionnaire, 80% of the introductions were deductive and only two attracted the audience's attention inductively, one with projected comic strips about everyday situations using software in Lecture 6 (drawing money from a cash dispenser) and another evoking the thatched roof of the Globe Theatre in London (Lecture 7). Content progressions were in the main blended – a mixture of chronological, cause-and-effect and descriptive threads, with occasional problem-solving in five samples, whereas argumentative and contrastive structures were missing. Recapitulations were found in six lectures, which used them both in-progress, through the present tense and the solidarity structure 'we have' with an existential role (Example 4.a) and as closure of the talk, in the past and with a perfective aspect to denote completion (Example 4.b). Some lecture closures, in particular formulaic ones, were abrupt (Example 5).

(4) a. Summarizing: we have four properties which make the software complex: the complexity of the domain, the development of the software project process, we have a discrete system that makes it harder to understand than a continuous system, and the eternal flexibility of the software can make it harder to understand. [L6]

b. So, in summary: I have described the present course project, I have presented you three possibilities to implement the basic and advanced practice, and what you call 'innovative practice', where the users – sorry – the students, provide a proposal for the work – the terminal work. I also made a description of the evaluation that we want to do during the course. [L8]

(5) a. And I wish I would have more time to give you more details, but this is enough for that today. [L10]

b. And that's all, thank you everybody! [L6]

From a pedagogical standpoint, lecture structuring and signposting, and in particular summarizing, could be taken as macro-engagement devices that facilitate the processing of information. Micro-engagement ones would then be the linguistic and discursive

items listed in Hyland's 2005a and 2005b taxonomies. As for these, observations evidenced five facts. First, that there was a comparable occurrence of all types of questions: rhetorical (four lectures, Examples 6.a-b), referential (six lectures, Examples 6.c-e), and comprehension checks (four lectures, Examples 6.f-i).

(6) a. And what is the methodology? I have used the European standard ISO 354. And what I obtained from this standard? [L7]

b. What do we mean by 'thermal processing'? Why do we want to thermally treat something? [L9]

c. Have you ever heard about this term, no? [L5]

d. Some of you know the Globe Theatre in London? [L7]

e. Do you remember the name of any white grapes varieties? [L10]

f. Have you understood what I wanted to say? [L1]

g. Is that clear, OK? [L2]

h. Does anybody have any questions? [L5]

i. Can you see from the graph? [L7]

Second, asides (found in only two lectures) did not add or clarify information but pursued complicity and rapport through humour (Examples 7.a-c).

(7) a. I hate this blackboard! [L2]

b. The game is so easy to play that even your cat can play it (slide projection of a cat near an electric guitar) [L8]

c. I'm sure that most of you will be able to distinguish between white wines and red wines, which is something quite easy, especially if you have your eyes open. [L10]

Third, directives did not abound and many were covert in the few endophorics referring to the visuals, which centred the audience's gaze (Example 8.a). There were four overt directives – three cognitive (Example 8.b), and one urging them to take immediate physical action with realia (Example 8.c).

(8) a. And this is a photograph from England. And this is another photograph from Japan. And another use you can see here is as fence, for separating houses. [L7]

b. You have to take care about this because that is a source of mistakes. [L5]

c. Can you repeat it, please? (a certain movement with a piece of realia) [L3]

Fourth, in all lectures there was a fluctuation in pronoun use. 'I' marked the speaker role, mostly in class outlinings (Example 9.a), 'we' appeared in summaries, supposedly joint tasks, hypotheses and common perceptions and conditions (Example 9.b), and 'you' also in endophorics, in hypotheses, and in procedural descriptions (Example 9.c).

(9) a. I will give an introduction and some brief concepts. [L5]

b. Because the sensing nerves that we have are in the tongue – inside our mouth. [L10]

c. Imagine that you are in this class, OK? And that you don't have any treatment at all – no absorption treatment at all, OK? [L7]

Fifth, shared knowledge may be expressed in subtle ways, verbally (Example 10) or visually, as was the case of the projected comic strips.

(10) Probably you have heard of pyrolisis through Arguiñano, who is advertising some pyrolitic ovens. [L9] (N.B. Carlos Arguiñano is a famous Spanish chef).

To conclude this analysis of performances, metadiscourse and academic functions pervaded every lecture (Figure 8), but their repertoires were somewhat poor.

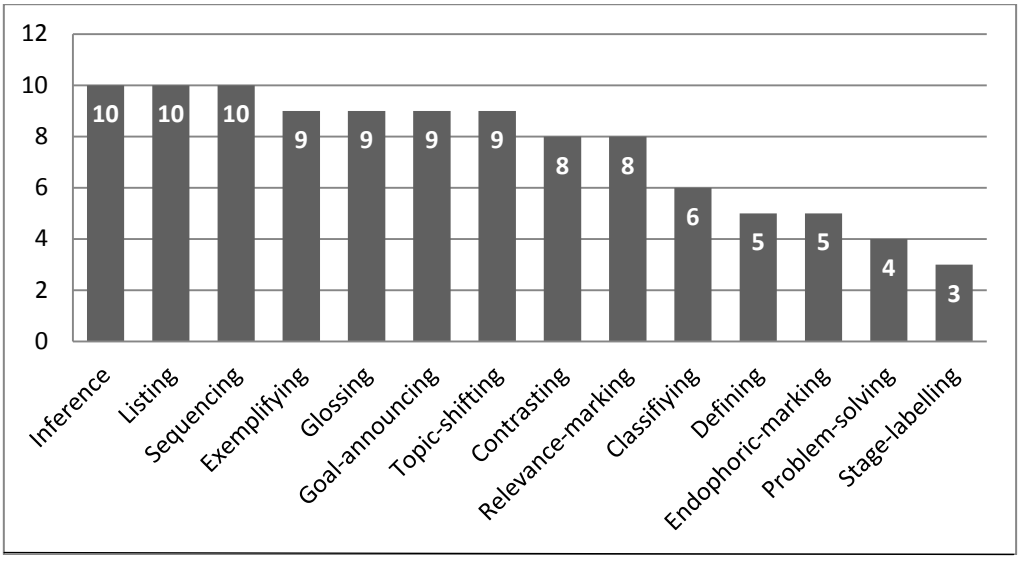

Figure 8. Recourse to key metadiscourse and CALP.

Sequencers, for example, were limited to 'first', 'second', 'then' and 'finally', the only glosses used were 'I mean'/'this means?'/'What does this mean?', the topic shifters

were 'so', 'well', or regressions to the outline slide to read the next point, and 'but' and 'on the other hand' (at times misleadingly used as a topic shifter) were the only markers of contrast. This linguistic stiffness was even more patent in the expression of stage-labelling ('up to now', 'at this stage'), classification – insufficiently marked by means of 'there is/are' and 'we have' instead of expressions of (sub)division and composition such as 'divides/branches out into' or 'consists of', 'comprises', etc. – and problem-solving, which was foregrounded with the tandem of signalling nouns 'problem'/'solution'. The repertoires for endophoric-marking (even by laser-pointing), definition, exemplification, enumeration and marking of relevance were nonetheless wider. One teacher (L9) even came to highlight the importance of a concept through reiterated parallelism as emphasis (Example 11, my italics):

(11) If we heat something in the absence of oxygen, I mean, there is no oxidizing agent in the atmosphere, then, whatever we have *is not going to* burn, *it's not going to* combust, but *it's going to* degrade, *it's going to* pyrolize, *it's going to* decompose. So *we are not going to have* combustion – *we are going to have* pyrolisis. [L9]

Related to repertoire limitations, the building of idiolects is an added source of communication barriers. Lectures 1, 2 and 3 showed an over-recurrence of metadiscursive items with more than one function, which may easily lead to confusion: 'then' as both sequencer and inferential (Lecture 1), 'this' not followed by any noun (e.g. picture, graph, diagram, part, etc.) as an ambiguous endophoric when pointing to visuals and also as a blurry antecedent encapsulating a previous proposition (Lecture 2), or 'so' as an inferential, topic-shifter and discourse-filler (Lecture 3).

III.2.3. Discussion: When versions do not quite tally

We have seen that my informants were accurate in their perceptions of BICS, metadiscourse and CALP, which turned out to be the weak points in their performances. Likewise, their self-reported teaching practices were found in most diagnostic lessons, but their ideas of autonomy and participative interaction, two cardinal issues in content-based instruction, were not realistic and differed notably from the stagnated didactic strategies they conducted. Due to feelings of insecurity caused by their linguistic abilities, the participants remained anchored in a genre (the monologic lecture, modernized with visuals as a conference presentation) without being aware of the huge

pedagogical potential other genres may afford, either as matrix structures or as embeddings.

To break this inertial teaching, it is necessary to know that language and didactics go hand in hand, and so certain structural and signposting functions involve CALP and, in turn, the use of CALP may affect text structure: for instance, stage-labelling favours (or may be indicative of) summaries, while citations, quotations and deductive starts are useful tools for introductions and, some progressions, such as argumentation and problem-solution, call for CALP as well. Analogously, BICS has a bearing on structure through elicitation and brainstorming to introduce lessons and start them inductively, and in embedded tasks it may change pace or act as a closure strategy. In answer to my initial question, once teachers can cope with these implications, above phonetic inhibitions, they will be ready to meet the CLIL challenge with excellence. In the next section I suggest a model – an educational trope – for teacher-training, to help them relate and retain all the crucial aspects and resources that should be taken into account in participative EMI classes.

IV. OUTCOME: THE *TEACHER-TARGET* MODEL

Taking advantage of the fact that hard-science professionals are keen visualizers, I have designed an operative visual metaphor to integrate discursive and linguistic elements and serve as a comprehensive mnemonic. Shaped like a shooting target (Figure 9), its concentric circles represent the different strands of discourse that converge in university lectures, and its crosshairs embodies the reversible discursive control, depending on the genre and the situation, by teachers or students. In a highly interactive class, students would ideally be supposed to take the lead and control the flow of the lesson (horizontal movement/axis) with their expositions, questions, comments, and peer-work exchanges. The teacher might interrupt that flow (vertical movement/axis) with observations, answers, questions, glosses, cautions, and any other necessary intervention.

This model goes beyond the applications of educational tropes proposed to date, which have been essentially descriptive of teachers' and learners' perceptions of their identity roles, the learning process, and the transmission of information, all of them aspects studied cognitively by Cameron (2003) and Cortazzi and Jin (1999), or of their impact

on specific pedagogical areas, such as vocabulary acquisition (Littlemore 2008). It takes one step further than its antecedents (Bhatia's 2012 model for interdiscursivity in academic genres, Dafouz and Núñez's 2009 proposal for a tertiary CLIL pedagogy, and Flowerdew and Miller's 1995 cultural dimensions in L2 lectures) by viewing the lecture as a complex whole and by refining the inventory of discursive and linguistic components. Moreover, it impels teachers to plan their lessons (a CLIL must) didactically and linguistically, at least roughly (see Table 2). In participative lessons, the instructor does not need to plan every phase linguistically, just to provide keywords for presenting and monitoring tasks in those stages led by the students.

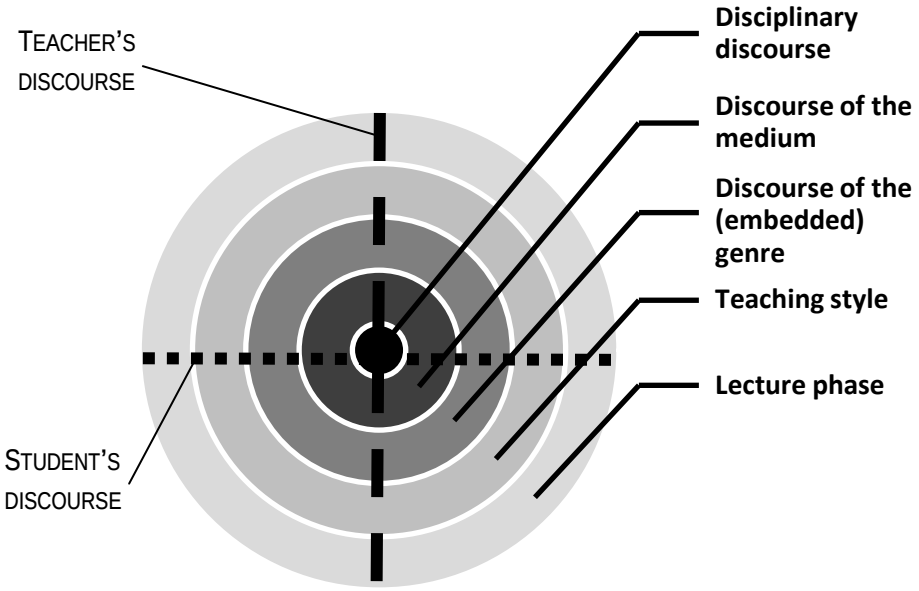

Figure 9. Converging discourses in the lecture.

Whatever the style of teaching, carrying out the teacher-target model entails providing instructors with a variety of functional repertoires (phase-, genre-, medium- and pedagogy-bound) that add to the specialized terminology of the discipline and offer a number of advantages, namely:

1) Increase the number of learning stimuli and foster occasions for *natural communication* other than the transmission of technical content, approaching EFL classes to CLIL.

2) Make teachers envisage the lecture as a *hybrid genre* in which text types (narrative, description, exposition and argumentation), genres (demos, stories,

graph commentaries, case studies, reports, instructions, oral presentations, etc.), progressions (inductive, deductive, problem-solution, contrastive, chronological, etc.) and shifting teaching styles flow along a continuum of alternate leadership and democratic participation.

3) Make teachers realize that those lecture constituents mould one another: some disciplines and lecture phases encourage certain media and genres, which do affect the way of teaching. And conversely, in a specific subject matter and at a given point of the lecture, personal teaching preferences involve choosing some genres and media over others.

4) Make teachers plan their class dynamics: the rhetoric of the matrix and embedded genres, the discourse associated with learning boosters, and the engagement strategies with their audience.

Repertoires should include the following aspects:

LECTURE PHASE (Young 1994): Metadiscourse indispensable for *discourse structuring* (i.e. objectives, motivation and outline of the lesson), *exemplification* (including analogies, similes and metaphors), *content delivery* (e.g. through definitions, classifications, clarifications, explanations, hypotheses, argumentations, narratives and descriptions) and *conclusion* (languages of inference, recapitulation, and prediction).

TEACHING STYLE (Ogborn at al. 1996): Metadiscourse, BICS and formal and informal registers to handle different strategies and degrees of learning autonomy, control over the lesson and involvement with the students (e.g. questioning and feedback tactics, task-based teaching, project work, peer work, etc.).

DISCOURSE OF THE (EMBEDDED) GENRE (Bhatia 2012): Moves, steps, typical metadiscourse and specialized phraseology of online genres (chats, forums, blogs, mobile learning, videos, e-portfolios, e-mail tutorials, twitters, etc.), stories, anecdotes and jokes, case studies, seminars, commentaries of graphics, demos and experiments, reports, oral presentations, instructions, etc., with their associated or admissible progressions to sequence contents (inductive, deductive, chronological, spatial, contrastive, problem-solution, known-unknown, general-particular).

DISCOURSE OF THE MEDIUM (Hewings 2012): Registers for face-to-face and online teaching, endophoric and evidential metadiscourse for visuals, expression of perception, reporting, calculation, analysis, and action verbs linked to TICs and CMC (click, cut and paste, delete, drag, log on/off, etc.).

Table 2. Sample of lesson-phase planning.

INTERVENTIONS = **TEACHER** → Intermittent description as prompt following display and rhetorical questions to show how to use discourse features + frequent referential questions to elicit answers/description and peer (dis)agreement and feedback. **(20 min)**

STUDENT → Graph-commentary tasks, responses to teacher's questions, feedback to peers. **(30 min)**

SUBJECT (+ lesson topic)	LECTURE PHASE	EMBEDDED GENRE STYLE	MEDIA	DISCOURSE FEATURES
Engineering: Science of Materials ***'Aeronautical alloys'*** **_ Disciplinary keywords** *(alloy, melting point, plastic deformation, tension, yield strength, etc.)*	**Illustration**	**Commentary of visual data** (on the behaviour of alloy X)	***PowerPoint*** **_ Endophorics** *(As the graph shows…)* **_ Evidentials** *(According to the diagram…)* **_Spatial markers** *(well over/under, above/below, in the foreground/background, right at the top/bottom, on/to the left/right, etc.)* **_Verbs of perception** *(see, note, notice, tease out, discriminate, observe, perceive, appreciate, etc.)* **_Verbs of calculation** *(calculate, measure, reckon, work out, assess, evaluate, estimate, etc.)* **_Verbs of analysis** *(examine, focus/ concentrate on, sort out, contrast, prove, demonstrate, scrutinize, etc.)*	1. *Rhetorical moves* 1.1 Panoramic/overview evaluation *(a progressive/regressive trend)* 1.2 Data sorting , grouping and comparing *_Progressions: chronological, spatial, contrastive, problem-solution* 1.3 Discussion through explanation, hypothesis, analogy and prediction *_We can gather, deduce, infer, conclude that…* *_ If we increase temperature, then…* *_ This so because…/ This is due to…* *_ It will/might probably…* *_This behaviour resembles that of…* 2. *Terms for trend description* _Adj + common-core N *(e.g. steady climb, piecemeal drop)* _Common-core V + Adv/Prep Ph *(bottom out, flatten out, level off)* _Specialized noun *(yield point, trough, upsurge)* _Specialized/single-word verb *(slump, stagnate, hike)* _Adverbs of pace *(gradually, swiftly…)* _Adverbs of degree *(dramatically, significantly, slightly…)* _Hedges *(somewhat, a great deal…)*

As decisive as supplying generic, metadiscursive and lexical repertoires is the training of teachers in question/answer and feedback techniques, so that they are able to handle the axial constituent of the model to ensure that students propel and regulate lessons reasonably. The decline of teachers' control in the classroom by no means diminishes their role as architects of students' multilingual competencies, and what I have attempted with this study and its ensuing model is to reformulate it in the pursuit of more participative and creative polytechnic environments.

REFERENCES

Abedi, J. 2009. "Utilizing accommodations in assessment". In Shohamy, E. and N.H. Hornberger (Eds.) *Encyclopedia of Language and Education*. 2nd ed., Vol. 7, Language Testing and Assessment. Berlin: Springer, 331-347.

Airey, J. 2012. "'I don't teach language'. The linguistic attitudes of physics lecturers in Sweden". In Smit, U. and E. Dafouz (Eds.) *Integrating Content and Language in Higher Education. Gaining Insights into English-Medium Instruction at European Universities. Special Issue of AILA Review* 25, 64-79.

Ball, P. and Lindsay, D. 2013. "Language demands and support for English-medium instruction in tertiary education. Learning from a specific context". In Doiz, A., D. Lasagabaster and J.M. Sierra (Eds.) *English-Medium Instruction at Universities. Global Challenges.* Bristol: Multilingual Matters, 44-61.

Bhatia, V.K. 2012. "Interdiscursivity in Academic Genres". In Berkenkotter, C., V.K. Bhatia and M. Gotti (Eds.) *Insights into Academic Genres.* Bern: Peter Lang, 47-65.

Brown, J.D. and Rodgers, T.S. 2002. *Doing Second Language Research.* Oxford: Oxford University Press.

Bullock, A. 1975. *Bullock Report. A Language for Life.* London: HMSO.

Cameron, L. 2003. *Metaphor in Educational Discourse.* London: Continuum.

Coonan, C.M. 2007. "How are students engaged in subject learning through the foreign language? Activities for learning in a CLIL environment". In Marsh, D. and D.

Wolff (Eds.) *Diverse Contexts-Converging Goals. CLIL in Europe.* Frankfurt am Main: Peter Lang, 153-169.

Cortazzi, M. and Jin, L. 1999. "Bridges to learning: Metaphors of teaching, learning and language". In Cameron, L. and G. Low (Eds.) *Researching and Applying Metaphor.* Cambridge: Cambridge University Press, 149-176.

Costa, F. 2012. "Focus on form in ICLHE lectures in Italy: Evidence from English-medium science lectures by native speakers of Italian". In Smit, U. and E. Dafouz (Eds.) *Integrating Content and Language in Higher Education. Gaining Insights into English-Medium Instruction at European Universities. Special Issue of AILA Review* 25, 30-47.

Crandall, J. and Kaufman, D. 2002. "Content-based instruction in higher education settings: evolving models for diverse contexts". In Crandall, J. and D. Kaufman (Eds.) *Content-Based Instruction on Higher Education Settings.* Alexandria, Virginia: TESOL, 1-9.

Cummins, J. 1996. *Negotiating Identities: Education for Empowerment in a Diverse Society*. Toronto, Ontario: California Association for Bilingual Education.

Dafouz, E. 2006. "Solidarity strategies in CLIL university lectures: teachers' use of pronouns and modal verbs". *VIEWZ: Vienna English Working Papers* 15 (3), 9-15.

Dafouz, E. and Núñez, B. 2009. "CLIL in higher education: Devising a new learning landscape". In Dafouz, E. and M.C. Guerrini (Eds.) *CLIL across Educational Levels: Experiences from Primary, Secondary and Tertiary Contexts.* Madrid/London: Santillana Educación / Richmond Publishing, 101-112.

Dafouz, E. and Núñez, B. 2010. "Metadiscursive devices in university lectures. A contrastive analysis of L1 and L2 teacher performance". In Dalton Puffer, C., T. Nikula and U. Smit (Eds.) *Language Use and Language Learning in CLIL Classrooms.* Amsterdam: John Benjamins, 213-231.

Dafouz, E., Núñez, B., and Sancho, C. 2007. "Analysing stance in a CLIL university context: Non-native speaker use of personal pronouns and modal verbs". *International Journal of Bilingualism and Bilingual Education* 10 (5), 647-662.

Dalton-Puffer, C. 2007. "Academic language functions in a CLIL environment". In Marsh, D. and D. Wolff (Eds.) *Diverse Contexts-Converging Goals. CLIL in Europe.* Frankfurt am Main: Peter Lang, 201-209.

De Marco, A. and Mascherpa, E. 2011. "Teaching Italian for Specific Purposes to Chinese students through the Moodle Platform". Presentation given at the *X AELFE Conference: La Investigación y la Enseñanza Aplicadas a las lenguas de Especialidad y a la Tecnología.* Universitat Politècnica de València, September 5-7.

Dörnyei, Z. 2007. *Research Methods in Applied Linguistics.* Oxford: Oxford University Press.

Echevarria, J. and Graves, A. 1997. *Sheltered Content Instruction.* Boston, Massachusetts: Allyn & Bacon.

Flowerdew, J. 1994. "Research of relevance to second language lecture comprehension – An overview". In Flowerdew, J. (Ed.) *Academic Listening. Research Perspectives.* Cambridge: Cambridge University Press, 7-29.

Flowerdew, J. and Miller, L. 1995. "On the notion of culture in L2 lectures. *TESOL Quarterly* 29 (3), 345-374.

Foran-Storer, D. 2007. "Teaching technical English at the tertiary and professional level: content-based cooperative learning under the CLIL umbrella". In Marsh, D. and D. Wolff, (Eds.) *Diverse Contexts-Converging Goals. CLIL in Europe.* Frankfurt am Main: Peter Lang, 309-317.

Foran, D. and Sancho, C. 2009. "CLIL approaches in university Applied Science environments". In Dafouz, E. and M.C. Guerrini (Eds.) *CLIL across Educational Levels: Experiences from Primary, Secondary and Tertiary Contexts.* Madrid/London: Santillana Educación / Richmond Publishing, 113-124.

Foran, D. 2011. "CLIL-ized ESP: moving towards communicative competence in tertiary education – A practical demonstration". Presentation given at the *X AELFE Conference: La Investigación y la Enseñanza Aplicadas a las lenguas de Especialidad y a la Tecnología.* Universidat Politècnica de València, September 5-7.

Fortanet-Gómez, I. and Bellés-Fortuño, B. 2008. "The relevance of discourse markers in teacher training courses for Content and Language Integrated Learning in higher education". In Martí Arnándiz, O. and M.P. Safont Jordá (Eds.) *Achieving Multilingualism: Wills and Ways. Proceedings of the First International Conference on Multilingualism (ICOM).* Castelló de la Plana: Universitat Jaume I, 149-159.

Fortanet-Gómez, I. 2013. *CLIL in Higher Education. Towards a Multilingual Language Policy.* Bristol: Multilingual Matters.

García, O. 2009. *Bilingual Education for the 21st Century. A Global Perspective.* Malden, MA: Wiley-Blackwell.

Giménez Moreno, R. 2008. "Impartir la clase en inglés". In Fortanet-Gómez. I. (Coord.) *Hablar en la Universidad. Docencia e Investigación.* Oviedo: Septem Ediciones, 45-81.

Guazzeri, A. 2007. "Participation in CLIL: cooperative learning in CLIL". In Marsh, D. and Wolff, D. (Eds.) *Diverse Contexts-Converging Goals. CLIL in Europe.* Frankfurt am Main: Peter Lang, 171-184.

Hewings, A. 2012. "Stance and voice in academic discourse across channels". In Hyland, K. and C. Sancho Guinda (Eds.) *Stance and Voice in Academic Written Genres.* Houndmills, Basingstoke, Hammpshire, UK: Palgrave MacMillan, 187-201.

Hondris, G, Vlahavas, I. and Demetriadis, S. 2007. "Negotiation of meaning and digital textbooks in the CLIL classroom". In Marsh, D. and D. Wolff (Eds.) *Diverse Contexts-Converging Goals. CLIL in Europe.* Frankfurt am Main: Peter Lang, 319-330.

Hyland, K. 2005a. *Metadiscourse. Exploring Interaction in Writing.* London: Continuum.

Hyland, K. 2005b. "Stance and engagement: A model of interaction in academic discourse". *Discourse Studies* 7 (2), 173-192.

Hynninen, N. 2012. "ICL at the micro-level: L2 speakers taking on the role of language experts". In Smit, U. and E. Dafouz (Eds.) *Integrating Content and Language in*

Higher Education. Gaining Insights into English-Medium Instruction at European Universities. Special Issue of AILA Review 25, 13-29.

Klaasen, R.G. and Räsänen, A. 2006. "Assessment and staff development in higher education for English-medium instruction: A question-raising article". In Wilkinson, R. and V. Zegers (Eds.) *Bridging the Assessment Gap in English-Medium Higher Education.* Fremdsprachen in Lehre und Forschung 40. Bochum, Germany: AKS Verlag, 235-255.

Littlemore, J. 2008. "The relationship between associative thinking, analogical reasoning, image formation and metaphoric extension strategies". In Zanotto, M.S., L. Cameron and M.C. Cavalcanti (Eds.) *Confronting Metaphor in Use. An Applied Linguistic Approach.* Amsterdam: John Benjamins, 199-222.

Mason, A. 1994. "By dint of: Student and lecturer perceptions of lecture comprehension strategies in first-term graduate study". In Flowerdew, J. (Ed.) *Academic Listening. Research Perspectives.* Cambridge: Cambridge University Press, 199-218.

Maum, R. (Dec 2002). "Nonnative-English-speaking teachers in the English teaching profession". *CAL Digests*, document EDO-FL-02-09. 25 May 2013 <http://www.cal.org/resources/digest/0209maum.html>

Mauranen, A. 2006. "Signalling and preventing misunderstanding in English as a lingua franca communication". *International Journal of the Sociology of Language* 177, 123-150.

Mauranen, A. 2009. "Chunking in EFL: Expressions for managing interaction". *Intercultural Pragmatics* 6 (2), 217-233.

The University of Michigan-English Language Institute. 2007. MICASE (Michigan Corpus of Academic Spoken English). 29 May 2013 <http://quod.lib.umich.edu/m/micase/>

Morell, T. 2004a. "Interactive lecture discourse for university EFL". *English for Specific Purposes* 23 (3), 325-338.

Morell, T. 2004b. *La Interacción en la Clase Magistral.* Alicante: Publicaciones de la Universidad de Alicante.

Morell, T. 2007. "What enhances EFL students' participation in lecture discourse? Student, lecturer, and discourse perspectives". *Journal of English for Academic Purposes* 6 (3), 222-237.

Morell, T. 2009. *¿Cómo Podemos Fomentar la Participación en Nuestras Clases Universitarias?* Alcoy, Alicante: Marfil.

Neumann, R., Perry, S. and Becker, T. 2002. "Teaching and learning in their disciplinary contexts: A conceptual analysis". *Studies in Higher Education* 27 (4), 405-417.

Ogborn, J., Kress, G., Martins, I. and McGillicuddy, K. 1996. *Explaining Science in the Classroom.* Buckingham/Philadelphia: Open University Press.

Sancho Guinda, C. 2010. "The emergent role of mind-mapping in CLIL instruction: textual cognitive resources in engineering lectures". In Morell, T., M. Aleson and M. Tabuenca (Eds.) *Revista Alicantina de Estudios Ingleses (RAEI) Special Issue on Research on Teaching English* 23, 83-105.

Shohamy, E. 2013. "A critical perspective on the use of English as a medium of instruction in universities". In Doiz, A., D. Lasagabaster and J.M. Sierra (Eds.) *English-Medium Instruction at Universities. Global Challenges.* Bristol: Multilingual Matters, 196-210.

Smith, K.S. and Simpson, R.D. 1995. "Validating teaching competencies in higher education: A national study using the Delphi method". *Innovative Higher Education* 19 (3), 223-233.

Stanford University Online. 29 May 2013 <http://online.stanford.edu/courses>

Tsui, A.B.M. 1995. *Introducing Classroom Interaction.* London: Penguin.

Van der Walt, C. and Kidd, M. 2013. "Acknowledging academic biliteracy in higher education assessment strategies: A tale of two trials". In Doiz, A., D. Lasagabaster and J.M. Sierra (Eds.) *English-Medium Instruction at Universities. Global Challenges.* Bristol: Multilingual Matters, 27-43.

Young, L. 1994. "University lectures – Macro-structures and micro-features". In Flowerdew, J. (Ed.) *Academic Listening. Research Perspectives.* Cambridge: Cambridge University Press, 159-176.

Received: 31 May 2013

Accepted: 26 August 2013

Cite this article as:

Sancho Guinda, C. 2013. "*Teacher Targets:* A model for CLIL and ELF teacher education in polytechnic settings". *Language Value* 5 (1), 76-106. Jaume I University ePress: Castelló, Spain. http://www.e-revistes.uji.es/languagevalue. DOI: http://dx.doi.org/10.6035/LanguageV.2012.5.5

ISSN 1989-7103

Language Value December 2013, Volume 5, Number 1 pp. 107-128
http://www.e-revistes.uji.es/languagevalue ISSN 1989-7103

CLIL in Pharmacy: A case of collaboration between content and language lecturers

Monika Woźniak
mwozniak@usj.es
Universidad San Jorge, Spain

ABSTRACT

This paper documents collaborative work between content and language lecturers for CLIL at a Spanish university. It focuses on the perspectives and concerns of ten Pharmacy lecturers who integrate credits in English within their content subjects, as reflected during a group discussion and in individual questionnaires. The study reveals that the lecturers are motivated and have positive opinions about both the project and the collaboration. In spite of some years of CLIL experience, they still need support and their main difficulties are related to the linguistic side of CLIL and its assessment. Given the differences in objectives in each subject, further collaboration with the language lecturer should focus on addressing the specific needs and concerns of particular lecturers. More collaboration between content lecturers is also needed to define the aims and outcomes of particular activities and to sequence them properly so as to offer a well-balanced CLIL degree programme.

Keywords: *CLIL, Pharmacy, teacher collaboration, teacher training, teachers' views, university*

I. INTRODUCTION

Given the widespread use of English in the academic world and the growing interest in internationalising European universities (Graddol 2006), it is not surprising that the number of CLIL (Content and Language Integrated Learning) initiatives is also rising in higher education institutions. In the Spanish context, where there are a large number of universities and a wide array of degree programmes to choose from, CLIL is viewed as a differentiating factor that can also attract new local students, and not only international ones (Dafouz and Núñez 2009: 102, Doiz et al. 2011). With its dual focus on both content and language (Coyle et al. 2010, Mehisto 2008, Mehisto et al. 2008) CLIL teaching at university level has to be planned, delivered, and assessed differently. This is not possible without "an open mind to teaching" (Pavón and Rubio 2010: 50) and a readiness to change teaching methods on the part of the lecturers involved. CLIL classrooms require interaction and dialogue, whereas the lecture format, which may still

DOI: http://dx.doi.org/10.6035/LanguageV.2013.5.6

be common in many Spanish universities (Dafouz and Núñez 2009: 104), does not promote cooperative learning and is not able to contribute to the aims of CLIL. The implementation of CLIL at any educational level involves changes not only in the language of instruction but can be a source of additional fears and anxieties for teachers (Pavón and Rubio 2010, Pena and Porto 2008). Higher education is no exception and to address these concerns and to achieve the challenging goals of CLIL, teacher cooperation is also vital at university.

The purpose of this paper is to ascertain teachers' perceptions and experience of their CLIL teaching in English and to document collaborative work between content and language specialists within a degree programme of Pharmacy at a university in Spain. The collaboration is stimulating for both parties and the paper focuses on the experiences of content lecturers who participate in the programme. The study aims to identify the most difficult aspects of CLIL and areas requiring further training and collaboration in order to know how this process should be developed and improved to support and maintain an effective integration of both content and language.

II. BACKGROUND

In spite of this dual focus of CLIL on both content and language, as noted by Fortanet-Gómez (2010: 259-260), university content subjects in English are usually taught by content teachers who concentrate first and foremost on achieving the aims established for their subjects. Even if their competence in the L2 is sufficient, they may lack the knowledge and experience in foreign language pedagogy to be able to contribute to their students' language learning and proficiency. It is important for content teachers to be aware of the fact that integrating English does not simply mean translating their classes into English but requires "a combination of the methods used in teaching both the content and the language" (Fortanet-Gómez 2010: 261). The requirement of going beyond a subject-focused mindset and the above-mentioned openness and flexibility in CLIL applies to both content and language teachers (Coyle et al. 2010, Mehisto 2008, Mehisto et al. 2008). Teaching methodologies vary between particular university disciplines and language teachers are not familiar with them. As underscored by Fortanet-Gómez (2010: 264), training courses are often delivered by colleagues from

the language department of the same university, and "the trainer is assumed to have a better knowledge of English and of language teaching, but not of other aspects such as discipline methodology or methods of assessment".

Both students and teachers of content subjects are usually non-native speakers of English, so language-focused courses are essential as teachers involved in CLIL projects are mainly concerned about their own fluency in the language required and may not feel well prepared for the project. However, the effectiveness of CLIL does not depend only on the teachers' level of linguistic competence (Pavón and Rubio 2010: 51). Moreover, the levels of the L2 within a given group of students may vary, which creates an additional difficulty for a non-language teacher. In order to overcome these difficulties in supporting language learning by content teachers and the lack of content knowledge by language teachers, the implementation of CLIL should take into account the time teachers need for cooperation so that they can exchange their skills and offer mutual support (Mehisto et al. 2008: 27).

As Fortanet-Gómez (2010: 273) pointed out, all teacher training and collaboration activities within a given institution should be part of a global institutional strategy with clear objectives and recognition of the effort made by the parties involved. Some European universities offer their CLIL lecturers teacher-training courses, usually delivered by language departments (for example, Airey 2011, Fortanet-Gómez 2010, Klaassen 2008), or base their courses taught through the medium of English on close collaboration between content and language lecturers (for example, Bruton and Woźniak 2013, Zegers 2008). Specific training for content teachers is a good occasion for content lecturers from different departments and degree programmes to express and share experiences but a closer, day-to-day collaboration between teachers of non-linguistic content and language teachers can allow them to address more specific needs and plan teaching strategies together (Mehisto et al. 2008, Tudor 2008: 53).

In the context of Spanish higher education, Dafouz and Núñez (2009: 103-104) found that teachers who deliver courses in English for international students noticed some changes in comparison with their classes in Spanish. Classes taught in English require better preparation and do not leave room for improvisation. Interpersonal skills to attract students' attention, for example, by telling jokes in class, are limited. As for teachers'

needs and expectations, they mainly need to improve their speaking skills in English as well as call for financial and methodological support. The findings of the interviews with lecturers reported in Aguilar and Rodríguez (2012) show that lecturers are mainly interested in improving their speaking competence in English, but they do not include language issues in the assessment of their students and are not willing to receive any training on the methodology of CLIL teaching. In spite of a longer tradition of teaching in English in northern countries, content teachers seem to have very similar problems. A qualitative study documenting the experiences and impressions of Swedish lecturers from different disciplines shows that they are aware of their limitations when teaching their content courses in English (Airey 2011). Content lecturers consider their English to be "homemade" and do not feel that they should deal with linguistic issues or correct their students' English. Airey argues, however, that it is content teachers who should teach their students disciplinary discourse.

III. SETTING AND RESEARCH QUESTIONS

This study was conducted among lecturers of content subjects within the degree in Pharmacy at San Jorge University in Spain (Universidad San Jorge, USJ). According to the university's language policy, English is progressively implemented in all degree programmes. In the first two years of studies at least 1 ECTS (25 hours) in at least three different subjects is taught through the medium of English and from the third year onwards some subjects should be taught entirely in English. One of the key aspects of this CLIL project is a close collaboration between lecturers from particular faculties and English lecturers from the Institute of Modern Languages (IML). The IML also offers courses of general and academic English as well as workshops on CLIL for all teachers involved in the project.

Each content lecturer can count on advice and support from an English lecturer from the IML. The language lecturer is expected to be a methodological advisor and often also coordinates the integration of English in the degree course in question. In the case of Pharmacy, the author of this paper works with all the CLIL lecturers in this degree programme. At the beginning of the academic year the language teacher arranges informal meetings with every content lecturer to talk about the objectives of their

subjects and to agree on the contents to be taught in English. It is content lecturers who select the contents to be taught in English and the materials to be used. Next, they work with the language teacher on designing activities and tasks, identifying problems that may arise, adapting materials, establishing assessment criteria or analysing past classes and improving lesson plans. Content lecturers receive advice on their language use in class and scaffolding strategies. Lecturers decide if any kind of collaboration is needed in the classroom, for example by delivering the class together as team-teachers or with a language assistant. Full-time content lecturers receive half a credit extra for every credit taught in English. The university also recognises this collaboration in language lecturers' workload by assigning them credits for this purpose. In this case, the number of credits is not fixed and it is adjusted to the needs of a given academic year.

A total of 10 teachers of Pharmacy subjects participate in the CLIL programme and integrate English, to a different extent, in the following 14 subjects (Table 1).

Table 1. Subjects integrating credits in English in the degree of Pharmacy.

Academic year 2012-2013			
Year	**Subject**	**ECTS**	**ECTS in English**
1	*Introduction to Laboratory Work*	6	1
	Inorganic Chemistry	9	1
	Organic Chemistry	9	1
2	*Physical Chemistry II*	6	2
	Pharmaceutical Chemistry I	6	0.5
	Pharmaceutical Chemistry II	6	0.5
	Parasitology	6	1
	Human physiology I	6	1
3	*Human physiology II*	12	2
	Pharmaceutical Care II	6	2
	Pathophysiology	6	1
4	*Pharmacoeconomics I*	6	2
	Public Health	6	5.5
	Toxicology	6	5.5
5	*Pharmacoeconomics II*	6	3

Some lecturers teach more than one subject in Pharmacy, for example, *Inorganic Chemistry* and *Pharmaceutical Chemistry I, Organic Chemistry* and *Physical Chemistry II*, and *Toxicology, Pharmacoeconomics II* and *Public Health*.

This paper presents the findings of a focus group discussion and a questionnaire completed by Pharmacy lecturers who deliver at least part of their subject in English. The objectives of the study were the following:

- to find out the perspective of Pharmacy lecturers on the CLIL approach in their degree programme and the collaboration with the IML
- to discern how confident the lecturers feel about teaching their subject in English and to identify the most difficult aspects of CLIL teaching in Pharmacy
- to ascertain content lecturers' training needs and expectations about their future collaboration with the English lecturer

IV. DATA COLLECTION

As a first step, the author took a qualitative approach to the research questions by means of a discussion group. As Morgan (1997: 2) put it: "the hallmark of focus groups is their explicit use of the group interaction to produce data and insights that would be less accessible without the interaction found in a group". In this case, the group discussion, sometimes called a focus group interview (Hatch 2002: 134), served as a preliminary stage of the research process that was later used to help develop individual questionnaires and back up the information gathered during the group discussion.

The author of this article, who collaborates with all these CLIL lecturers, was present in the discussion group but her participation was kept to a minimum. The participants were asked to freely express their perspectives and concerns about their CLIL experience. Most of the questions prepared beforehand by the author to be used as prompts did not have to be used, since the discussion setting stimulated memories and ideas and the participants were very willing to verbalise their experiences, reflect on the demands and consequences of CLIL teaching, and share their concerns with their colleagues. In the end the author's main role was to keep the discussion focused on the topic in question. In order to guarantee everybody's equal participation, the discussion took place in Spanish and was similar to a natural conversation between colleagues. The discussion lasted 1 hour and 11 minutes and was audio recorded in its entirety with the consent of the lecturers. The meeting proved to be a good occasion for the lecturers to share their

experiences and exchange perspectives on our particular context of teacher collaboration and to make suggestions for its further development.

The qualitative data obtained during the group discussion were considered highly relevant and in order to obtain a wider picture of CLIL in Pharmacy, the material was used as a basis for designing individual questionnaires. The questionnaire was divided into three sections and consisted of closed and open questions to gather both quantitative and qualitative data. In the first section personal and background data were collected. The second section aimed to explore individual perspectives and the participants were asked for their opinions about the CLIL experience, its main benefits and their concerns, as well as various aspects of the collaboration with the IML such as its effectiveness, expectations, and suggestions for improvement (Appendix 1). The last section was dedicated to rating the level of difficulty of 27 aspects of CLIL teaching on a scale from 1 to 10 (0 - not difficult at all, 10 - very difficult, Appendix 2). The items were based on the content of the group discussion. The questionnaire was written in English, but the lecturers were given the choice to complete it in English or in Spanish. All questionnaires were completed in English.

The participants in the study were 10 lecturers of Pharmacy subjects (lecturer 1-10) who participate in the CLIL programme at the USJ and integrate English in at least part of their subject. This paper primarily focuses on CLIL in the degree in Pharmacy, but some of the participants also integrate English in other degree programmes, such as Nursing, Physiotherapy or Physical Activity and Sport Sciences. The participants are 7 females and 3 males ranging in age from 30 to 43 years (mean age 35 years). All lecturers are native speakers of Spanish and their declared level of English ranges from B1 to C2. Five of the lecturers attend English courses delivered by the IML, both general and specific (1 lecturer in the B1 course, 2 lecturers in the B2 course, 1 lecturer in the C1 course and *Academic Writing*, and 1 lecturer in *Oral skills*). One lecturer receives private English classes at home. They all use English for their research, for example, by reading scientific texts in English. Eight of the participants write their publications in English and five of them give presentations in English at conferences. Seven lecturers have stayed in an English-speaking country for a longer period of time, usually for a few months, mainly for their PhD research. Two of them lived in an English-speaking country for more than 1 year for professional reasons. In terms of

experience, they have from 3 to 11 years of experience as university teachers (mean experience 5.7 years). With regard to their CLIL subjects, the participants have from 2 to 9 years' experience teaching their subjects in Spanish (mean 4.22) and from 1 to 4 years in English (mean 2.22 years).

Table 2. Participants, their level of English and years of CLIL experience.

		Level		
		B1-B2	C1-C2	Total
How long have you integrated English in your subject(s)?	1-2 years	3	2	5
	3-4 years	3	2	5
Total		6	4	10

In order to provide further insights into the most difficult aspects of CLIL and training needs, the data from the questionnaires were analysed according to lecturers' level of English (B1-B2 or C1-C2) and their experience in CLIL teaching (1-2 years or 3-4 years). In the group of ten lecturers, six have a B1-B2 level and four have a C1-C2 level. In each level group there are three lecturers with 1-2 years of experience and two lectures with 3-4 years of experience as CLIL teachers (Table 2).

V. DISCUSSION OF RESULTS

The outcome of the group discussion and open-ended questions will be summarised first. The main issues which emerged from it will be emphasised and supported by citing some illustrative responses from the questionnaire (Questionnaire Part 1). This part will be followed by an analysis of quantitative data (Questionnaire Part 2) taking into account lecturers' level of English and CLIL experience. Given the small number of participants and the aims of the study, the results of the questionnaire were analysed using descriptive statistics without any other processing.

V.1. Responses from the group discussion and Part 1 of the questionnaire

Overall, lecturers' impressions about CLIL in Pharmacy subjects and the collaboration with the language lecturer are positive. The positive feelings about CLIL expressed during the group discussion and reflected in written responses refer both to themselves as teachers and to their students. As for the reason why they started integrating English

in their subjects, only one lecturer felt under obligation to participate in the CLIL project. Other lecturers first of all mention the benefits for their students and their future career. Pharmacy students need to be prepared to understand the latest literature and look for information about scientific advances, which nowadays are published mainly in English (Alberch 2000, Hamel 2007).

> *I integrated credits in English in my subjects because I teach in a scientific degree and nowadays scientific information is in English, everything inside the scientific world is in English.* (lecturer 6)

The lecturers with some experience abroad feel that their knowledge and skills acquired in foreign countries are an additional advantage for their students.

> *It made sense the students could get some benefit from my professional and teaching experience abroad.* (lecturer 3)

Apart from the benefits for the students, the lecturers also highlight some personal gains, for example, a chance to maintain or improve their own level of English.

> *Because it is a challenge and a way to improve the language*. (lecturer 1)
> *Because I want to improve my English and because I think that it's important for the students.* (lecturer 2)

One of the most positive aspects of CLIL for the lecturers is overcoming their stage-fright and gaining confidence when speaking in English in class. They also notice an improvement in their own language competence (lecturers 1, 2, 3, 8, 9). On the other hand, they also observe benefits for their students as far as students' confidence when using English is concerned and their positive attitude and involvement in the activities developed in their subjects (lecturers 4, 7, 10).

> *Students are each year less afraid of English activities.* (lecturer 10)
> (The most positive aspect of my CLIL experience is) *To observe the progress of some students and to keep up with my English skills.* (lecturer 3)

The lecturers view CLIL as a good opportunity to innovate their teaching (lecturers 4, 7). However, one of the problems with CLIL in higher education is the fear of shallowness of the courses taught in English due to the teachers' inability to express

some concepts in depth (Airey 2011: 44). Lecturer 1 explains the main concern related to CLIL as follows:

> *I am not sure if the students can understand the important things of the subject if I am speaking in English.* (lecturer 1)

Nevertheless, lecturer 6 points out the need to be more precise in English than in Spanish and notices that students pay more attention in order to understand the content when it is presented in English.

> *The most positive aspect of my CLIL experience is probably the effort I have to make to explain some abstract concepts in English. Whenever I write in Spanish I tend to use very long sentences with many subordinate clauses. That doesn´t happen in English, I must simplify and when I do that students usually understand me better. I have also experienced that if I explain in English students pay more attention.* (lecturer 6)

This lecturer adds, however, that explaining scientific concepts in English takes longer and we "cannot afford such a delay". Others, in contrast, complain that their students do not pay enough attention in classes taught in English, especially students with lower levels of English (lecturer 2, 3), or use online translators (lecturer 5).

Lecturers mention more problems and doubts related to their CLIL teaching, for example, their own level of English and the fear that their students will repeat their mistakes (lecturer 1). They feel that their language should be perfect (lecturer 10) and they should be able to answer students' questions about the use of English (lecturer 4). Other problems mentioned were associated with the lack of time or the process of preparing classes in English. During the group discussion the lecturers also mentioned difficulties that cannot be directly related to CLIL but should not be ignored. The lecturers reported difficulties associated with learning styles and some students' lack of transversal skills, for example, group work. This is very important for CLIL settings, as many of the activities are based on cooperative learning.

Table 3. Training needs (English).

What further training do you need?		English		
		No	Yes	Total
Level of English	B1-B2	0	6	6
	C1-C2	4	0	4
Total		4	6	10
CLIL experience	1-2 years	2	3	5
	3-4 years	2	3	5
Total		4	6	10

As for the training needs and expectations, the lecturers generally express their willingness to learn more. Six lecturers would like to receive more courses on the English language and nine lecturers need more training on the methodology of teaching content in a foreign language. All the lecturers with B1-B2 level would like to receive more training to improve their level of English, regardless of their experience with CLIL, whereas the lecturers with higher levels do not need any additional language courses (Table 3).

In the academic year 2011-2012 the IML offered a series of workshops on CLIL teaching for the lecturers involved in the programme. During the course the lecturers could reflect on and discuss the demands and implications of teaching their subjects in English. Unfortunately, only four lecturers from this study could participate in them.

Table 4.Training needs (Teaching content in English).

What further training do you need?		Teaching content in English		
		No	Yes	Total
Level of English	B1-B2	1	5	6
	C1-C2	0	4	4
Total		1	9	10
CLIL experience	1-2 years	0	5	5
	3-4 years	1	4	5
Total		1	9	10
Did you participate in IML workshops last year?	no	0	6	6
	yes	1	3	4
Total		1	9	10

Only one lecturer does not want any further training in the CLIL teaching methodology. This could be because the lecturer has already participated in CLIL workshops mentioned above. Other lecturers, regardless of their level of English and experience, answered that they would like to learn more about CLIL, including those lecturers who had previously participated in the workshops (Table 4). Those who were able to participate particularly appreciated the parts of the workshops dedicated to practising their oral skills, and they would like to receive more training of that kind. They suggested that training sessions should be shorter and more specialised in their subjects and classroom language. Online courses could be an alternative, especially if we take into account that both content and language lecturers are very busy and regular meetings are difficult to arrange. However, in spite of these difficulties, lecturers firmly object to receiving any training online. They call for short and intensive training sessions designed specifically for the degree in Pharmacy and which address their particular communicative needs in class or the laboratory.

V.2. Content teacher difficulties from Part 2 of the questionnaire

The questionnaire included a section in which lecturers were asked to rate the difficulty of 27 aspects of CLIL derived from the group discussion. This part of the questionnaire aimed to provide further insights into the most problematic parts of CLIL (Table 5).

Table 5. Rate the difficulty of the following aspects of your CLIL teaching on a scale from 0 to 10.

How difficult are these aspects of your CLIL teaching?	N	min.	max.	Mean	SD
1. selecting the contents of my subject to be taught in English	10	1	9	4.20	2.86
2. finding authentic materials in English to be used in class	10	1	8	4.10	2.47
3. preparing class materials in English (presentations, hand-outs, etc.)	10	1	9	5.30	2.50
4. finding adequate words when preparing written materials in English	9	2	8	4.78	2.11
5. finding technical terminology in English	10	1	8	3.80	2.20
6. checking English pronunciation of technical terms	10	2	9	6.10	2.03
7. assessing students' level of English	9	5	10	7.78	1.79
8. adapting original English materials to my students' needs	10	1	9	5.00	2.31
9. preparing lecture notes in English	10	1	9	5.60	2.36
10. designing activities in English	10	2	9	6.30	2.36
11. constructing written exams in English	7	2	8	5.43	2.37
12. maintaining the quality of classes similar to that of my classes in Spanish	10	3	10	7.50	2.42
13. holding students' interest when teaching in English	10	1	9	6.30	2.76
14. getting my enthusiasm across	10	1	9	6.00	2.83
15. explaining myself clearly in class	10	2	10	7.20	2.35
16. explaining something in different ways	10	2	10	7.30	2.79

17. finding adequate words when speaking English in class	9	2	9	7.22	2.33
18. correcting students' utterances in class	9	4	10	8.00	2.35
19. reformulating students' utterances in class	9	4	10	7.00	2.29
20. giving a clear answer to students' questions unprepared	10	3	9	6.40	2.17
21. giving appropriate examples unprepared	10	3	9	6.40	2.17
22. reacting to students' actions spontaneously	10	2	10	6.40	2.67
23. giving linguistic feedback to students	10	4	10	7.60	1.78
24. correcting students' written work	9	2	9	7.22	2.11
25. correcting students' oral performance	9	2	10	7.00	2.50
26. evaluating students' written work	9	3	10	7.44	2.01
27. evaluating students' oral performance	9	3	10	7.56	2.29

The answers given by Pharmacy lecturers show that the least difficult aspects in Pharmacy are items 5 (finding technical terminology), 2 (finding authentic materials), and 1 (selecting the contents). Even though the means for selecting contents to be taught in English suggests its relative lack of difficulty, during the discussion group mention was also made of the strategies used to select these contents. The lecturers agreed that their responsibility is to achieve content objectives and that they cannot run the risk of the L2 lowering their teaching objectives designated in the study plan. So far the lecturers have been very careful when selecting the contents to be taught in English in order to guarantee the knowledge and competences required in a degree course taught in Spanish. Consequently, English is usually used for assignments where previously learnt knowledge has to be applied and English is rarely taken into consideration to introduce new concepts. This point is particularly important since CLIL should be cognitively challenging and not only consolidate previously acquired knowledge (Coyle et al. 2010, Mehisto 2008, Pavón and Rubio 2010). The choice of contents and materials is made by the content lecturer but the initial ideas are later consulted with the language lecturer, whose suggestions about the linguistic side of the material and tasks are taken into account. All this process requires a common effort and time that the lecturers often do not have. In spite of this collaboration and effort, according to the lecturers, item 12 (maintaining the quality of classes similar to that of my classes in Spanish) is one of the most difficult aspects of CLIL.

It should be mentioned that during the group discussion the lecturers were unanimous about the easy access to authentic materials and specialised references in English that can be used in class. Many of them are not available in Spanish, especially videos or research articles (lecturer 9). Some lecturers, however, underscore the difficulty of finding authentic materials that would be suitable for their teaching objectives and their

students' needs. The materials available are often not only linguistically but first of all cognitively inaccessible, especially for first-year students. The process of transforming the materials to a pedagogically acceptable form often requires the help of the language lecturer.

Other difficult aspects are related to the linguistic side of CLIL and the problem of assessment and evaluation. In spite of the dual focus of CLIL on both content and language, content lecturers do not usually see themselves as teachers of both content and language. The participants in this study would like their activities to contribute to their students' development of English skills and some of them express concern about not really being able to fulfil this goal. As non-language teachers, they find it difficult to assess their students' level of English (item 7) and thus are not really able to notice students' potential progress in this respect. Their situation is particularly difficult if we take into account the fact that no particular level of English is required of the students at the beginning of their studies. Even though the majority of students of Pharmacy have a command of the language that is sufficient to be able to cope with the proposed activities, there are still students who may find them far above their level. All this creates a complicated situation for the lecturers, who also pinpoint their lack of strategies on how to incorporate the linguistic component of CLIL into scientific contents, not to mention coping with students with different levels of English. The lecturers feel responsible for the development of their students' competences in English, especially in reference to scientific discourse and "bilingual scientific literacy" (Airey and Linder 2008). Another problematic issue is correcting and evaluating students' assignments in English. This mirrors the findings reported in other studies (Aguilar and Rodríguez 2012, Airey 2011: 46-47). The lecturers do not feel prepared to correct students' English and the collaboration with the language lecturer needs to involve collaborative assessment and evaluation.

Table 6 shows the results of rating scales depending on the level of English and the years of CLIL experience of the participants.

Table 6. Results by lecturers' level of English and years of CLIL experience.

	B1-B2			**C1-C2**			**1-2 years**			**3-4 years**		
	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
1.	6	4.16	2.93	4	4.25	3.20	5	3.60	2.19	5	4.80	3.56
2.	6	5.00	2.76	4	2.75	1.26	5	5.00	1.87	5	3.20	2.86

3.	6	6.50	2.07	4	3.50	2.08	5	5.00	3.39	5	5.60	1.52
4.	5	5.80	2.17	4	3.50	1.29	4	4.25	2.63	5	5.20	1.79
5.	6	4.67	2.50	4	2.50	.58	5	3.60	2.70	5	4.00	1.87
6.	6	6.67	1.63	4	5.25	2.50	5	6.60	1.82	5	5.60	2.30
7.	5	8.60	1.14	4	6.75	2.06	4	7.75	2.06	5	7.80	1.79
8.	6	5.50	2.43	4	4.25	2.22	5	6.00	2.00	5	4.00	2.35
9.	6	6.83	1.60	4	3.75	2.22	5	4.60	2.97	5	6.60	1.14
10.	6	6.33	2.34	4	6.25	2.75	5	6.60	2.19	5	6.00	2.74
11.	3	6.67	1.53	4	4.50	2.65	3	4.00	2.65	4	6.50	1.73
12.	6	7.83	2.48	4	7.00	2.58	5	7.20	2.28	5	7.80	2.77
13.	6	6.83	1.60	4	5.50	4.12	5	5.60	3.13	5	7.00	2.45
14.	6	6.50	2.17	4	5.25	3.86	5	6.00	3.16	5	6.00	2.83
15.	6	7.83	1.17	4	6.25	3.50	5	7.00	1.58	5	7.40	3.13
16.	6	8.33	1.37	4	5.75	3.86	5	7.20	2.77	5	7.40	3.13
17.	5	8.20	.84	4	6.00	3.16	4	7.50	1.73	5	7.00	2.92
18.	5	8.60	1.52	4	7.25	3.20	4	8.75	2.50	5	7.40	2.30
19.	5	6.80	1.64	4	7.25	3.20	4	6.75	2.75	5	7.20	2.17
20.	6	6.83	1.83	4	5.75	2.75	5	5.80	2.39	5	7.00	2.00
21.	6	6.83	1.83	4	5.75	2.75	5	5.60	2.07	5	7.20	2.17
22.	6	7.67	1.51	4	4.50	3.11	5	6.20	2.77	5	6.60	2.88
23.	6	8.17	.98	4	6.75	2.50	5	7.20	1.10	5	8.00	2.35
24.	6	7.67	.82	4	6.33	3.79	4	8.00	.82	5	6.60	2.70
25.	5	8.00	.71	4	5.75	3.50	4	6.75	2.06	5	7.20	3.03
26.	5	8.00	1.42	4	6.75	2.63	4	6.75	2.99	5	8.00	.71
27.	5	7.80	1.79	4	7.25	3.10	4	6.75	3.30	5	8.20	1.10

Generally, the responses indicate that the participants with a higher level of English found most of the aspects of CLIL less difficult (Figure 1).

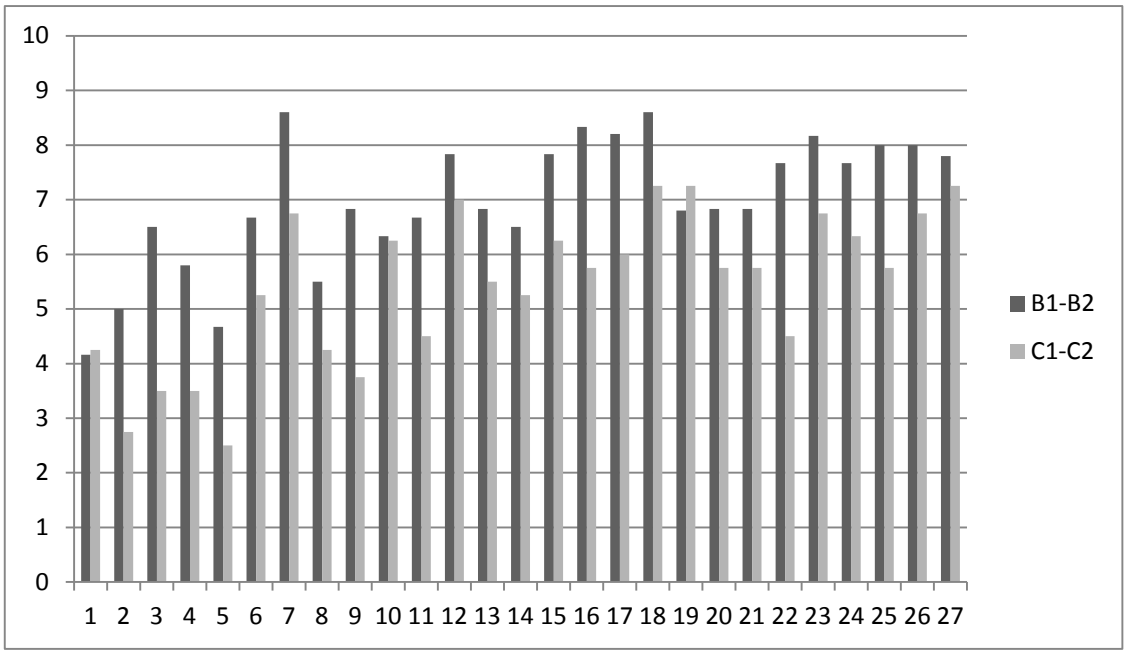

Figure 1. Results by lecturers' level of English.

However, it can be observed that items 12 (maintaining the quality) and 27 (evaluating students' oral performance) are only slightly less difficult for higher levels and the

difference is smaller than one point. On the other hand, items 1 (selecting contents) and 10 (designing activities) were rated almost equally difficult regardless of the level, whereas item 19 (reformulating students' utterances) was rated as even slightly more difficult by higher levels. This difference could be explained by the fact that lecturers with higher levels involve students in speaking activities in class whereas lecturers with lower levels prefer written tasks.

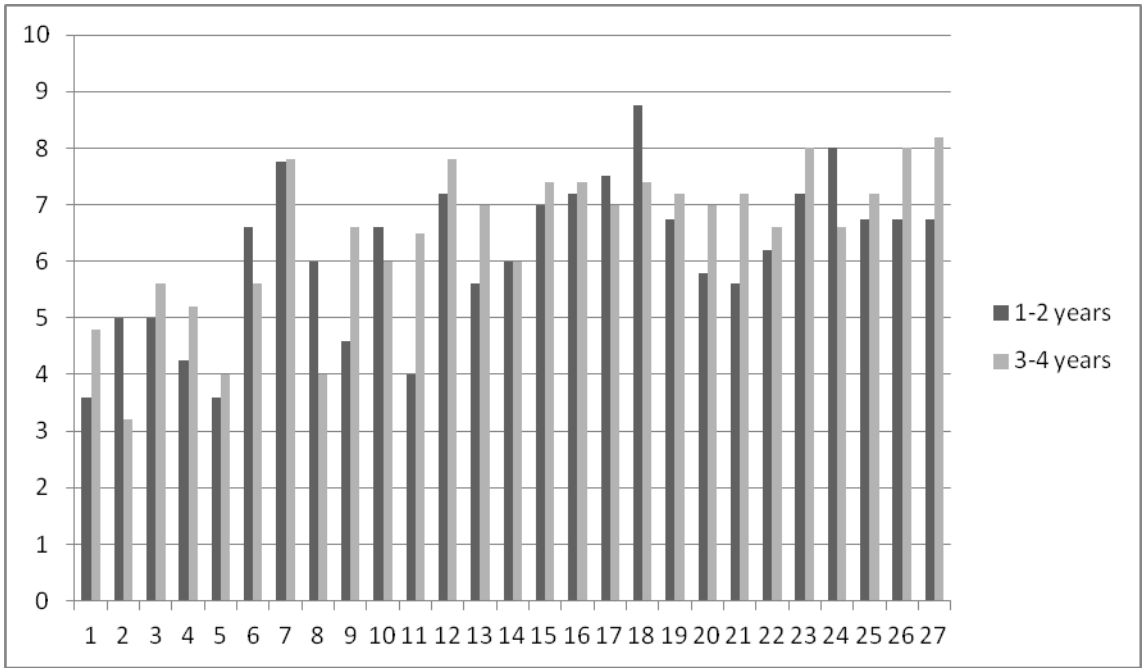

Figure 2. Results by years of CLIL experience.

As for the results according to the years of experience of CLIL teaching (Figure 2), it is more difficult to notice clear differences and draw general conclusions about the two groups. It could be expected that the more experience lecturers have, the easier they find the CLIL approach in their teaching. Indeed, the 1-2 years group found items 2 (finding authentic materials), 8 (adapting original materials), 18 (correcting students' utterances) and 24 (correcting students' written work) much more difficult than their colleagues with more experience. On the other hand, lecturers with 3-4 years' experience rated many items equally or more difficult than their less experienced colleagues. The aspects of CLIL rated considerably higher by the experienced group were items 1 (selecting the contents), 4 (finding adequate words), 9 (preparing lecture notes), 11 (constructing written exams), 13 (holding students' interest), 20 (giving a clear answer), 21 (giving appropriate examples), 23 (giving linguistic feedback), 26 (evaluating students' written work), and 27 (evaluating students' oral performance).

Findings from this small-scale study do not allow generalisations to be made about the main difficulties of CLIL teaching and training needs in the context of Pharmacy or higher education. Still, the study indicates that even apparently experienced teachers need methodological support to integrate content and language learning effectively, and this should be taken into account by the university when planning collaborative actions and organizing lecturers' timetables.

VI. CONCLUSIONS AND IMPLICATIONS

The research interest of this paper was to document and evaluate the collaborative process between content and language lecturers for CLIL in Pharmacy. The findings illustrate lecturers' subjective perceptions of their CLIL experience in their particular context. Even though the findings provide support for the results obtained in previous studies on teachers' attitudes and concerns about CLIL or bilingual programmes at university, it is difficult to ascertain the extent to which they can be generalised to other university settings. The discussion group and the questionnaires completed by the lectures reveal that in spite of the difficulties and misgivings about particular aspects of CLIL mentioned in this paper and other studies, the standpoint of Pharmacy lecturers towards CLIL is very positive and so is their attitude towards the collaboration with the language lecturer on the design and development of their classes and activities. Pharmacy lecturers emphasise the importance of integrating English for their students' future career and their own professional development as university lecturers. As in many other projects of this kind, the lecturers are very motivated and dedicated, but they complain about lacking time to prepare and carry out their activities and have doubts about their contribution to improving students' language skills.

The results of this study suggest implications for the future planning of the university's language policy. The findings show that due to a wide variety of subjects and their different objectives it is very difficult to define one general direction of this collaboration. As a result, further work with the language teacher needs to be more personalised and focused on the particular needs of each teacher and the contents delivered in English. Future training programmes should be centred on lecturers' specific communicative needs and address their individual difficulties. The findings

indicate that even fairly experienced lecturers with a good level of English still need support and further training to integrate content and language learning objectives effectively and maintain the quality of their teaching.

Our next goal is to design a general plan for integrating English throughout the degree programme of Pharmacy. Further collaboration is thus needed to define the objectives and outcomes of particular CLIL activities and sequence them more carefully in terms of their cognitive and linguistic difficulty. The lecturers tend to select safe contents that do not involve much risk of lowering their teaching objectives in case of failure. In the future more of challenging contents should be incorporated with the help of carefully designed scaffolding strategies. A closer collaboration between all the lecturers involved is therefore required to avoid overlaps, to adjust particular objectives to students' academic progress, and to deliver a well-balanced, high-quality CLIL degree programme.

Once implemented, CLIL needs further development and in-service training programmes for both content teachers and language teachers (Fortanet-Gómez 2010). Pharmacy lecturers' opinions about CLIL and their expectations about the collaboration with language lecturers should be taken into consideration when planning the directions of the integration of English in content subjects and the collaboration with the IML. Content lecturers would like to receive more training both in the English language and the methodology of teaching content in English, but they ask for intensive and tailor-made courses. As more time for preparation is needed when university subjects are taught in a foreign language (Airey 2011: 44), content lecturers receive extra credits. However, as new teachers join the project every year, a clearer system of credits for language lecturers is needed, taking into account the number of lecturers they work with and the credits they help to integrate. Thanks to the collaboration, both content and language teachers learn from each other, but language teachers also need further training and research on academic and disciplinary language in a given degree programme and how to integrate it in order to maximise the chances of success.

REFERENCES

Aguilar, M. and Rodríguez, R. 2012. "Lecturer and student perceptions on CLIL at a Spanish university". *International Journal of Bilingual Education and Bilingualism* 15 (2), 183-197.

Airey, J. 2011. "Talking about teaching in English: Swedish university lecturers' experiences of changing teaching language". *Ibérica* 22, 35-54.

Airey, J. and Linder, C. 2008. "Bilingual scientific literacy? The use of English in Swedish University Science Courses". *Nordic Journal of English Studies* 7 (3), 145-161.

Alberch, P. 2000. "Language in contemporary science: The tool and the cultural icon". In European Commission, Directorate-General for Research and Innovation. *Sciences et Langues en Europe.* Luxembourg: Office for Official Publications of the European Communities, 249-256.

Bruton, L. and Woźniak, M. 2013. "English for Physiotherapy, Physiotherapy for English: A synergistic approach". *Revista Nebrija de Linguística Aplicada* 13, número especial - Actas de Congreso. 1 August 2013 <http://www.nebrija.com/revista-linguistica/revista-linguistica-nebrija13/htm/BrutonyWozniak.htm>

Coyle, D., Hood, P. and Marsh, D. 2010. *CLIL: Content and Language Integrated Learning.* Cambridge: Cambridge University Press.

Dafouz, E. and Núñez, B. 2009. "CLIL in higher education: Devising a new learning landscape". In Dafouz, E. and M.C. Guerrini (Eds.) *CLIL across Educational Levels: Experiences from Primary, Secondary and Tertiary Contexts.* Madrid/London: Santillana Educación / Richmond Publishing, 101-112.

Doiz, A., Lasagabaster, D. and Sierra, J.M. 2011. "Internationalisation, multilingualism and English-medium instruction". *World Englishes* 30 (3), 345-359.

Fortanet-Gómez, I. 2010. "Training CLIL teachers for the university". In Lasagabaster, D. and Y. Ruiz de Zarobe (Eds.) *CLIL in Spain: Implementations, Results and Teacher Training.* Newcastle upon Tyne, UK: Cambridge Scholars Publishing, 257-276.

Graddol, D. 2006. *English Next. Why Global English May Mean the End of 'English as a Foreign Language'*. London: British Council.

Hamel, R.E. 2007. "The dominance of English in the international scientific periodical literature and the future of language use in science". *AILA Review* 20, 53-71.

Hatch, J. A. 2002. *Doing Qualitative Research in Education Settings.* Albany: State University of New York Press.

Klaassen, R.G. 2008. "Preparing lecturers for English-medium instruction". In Wilkinson, R. and V. Zegers (Eds.) *Realizing Content and Language Integration in Higher Education.* Maastricht, Netherlands: Maastricht University, 32-43.

Mehisto, P. 2008. "CLIL counterweights: Recognising and decreasing disjuncture in CLIL". *International CLIL Research Journal* 1 (1), 93-119.

Mehisto, P., Marsh, D. and Frigols, M.J. 2008. *Uncovering CLIL: Content and Language Integrated Learning in Bilingual and Multilingual Education.* Oxford: Macmillan Education.

Morgan, M.B. 1997. *Focus Groups as Qualitative Research*. 2nd ed. Newbury Park: Sage.

Pavón, V. and Rubio, F. 2010. "Teacher's concerns and uncertainties about the introduction of CLIL programmes". *Porta Linguarum* 14, 45-58.

Pena, C. and Porto, M.D. 2008. "Teacher beliefs in a CLIL education project". *Porta Linguarum* 10, 151-161.

Tudor, I. 2008. "The language challenge for higher education institutions in Europe, and the specific case of CLIL". In Martí i Castell, J. and J.M. Mestres i Sierra (Eds.) *El Multilingüisme a les Universitats en l'Espai Europeu d'Educació Superior: (Actes del seminari del CUIMPB-CEL 2007).* Barcelona: Institut d'Estudis Catalans, 41-64. 1 August 2013 <http://publicacions.iec.cat/repository/pdf/00000054%5C00000051.pdf>

Zegers, V. 2008. "When European studies meet English: A practitioner's view on content and language integrated learning". In Wilkinson, R. and V. Zegers (Eds.) *Realizing Content and Language Integration in Higher Education.* Maastricht, Netherlands: Maastricht University, 228-236.

Received: 31 May 2013

Accepted: 7 August 2013

Cite this article as:

Woźniak, M. 2013. "CLIL in Pharmacy: A case of collaboration between content and language lecturers". *Language Value* 5 (1), 107-128. Jaume I University ePress: Castelló, Spain. http://www.e-revistes.uji.es/languagevalue. DOI: http://dx.doi.org/10.6035/LanguageV.2012.5.6

ISSN 1989-7103

APPENDIX 1

Questionnaire (Part 1)

- Why did you start integrating credits in English in your subject(s)?
- What is the most positive aspect of your CLIL experience?
- What is your major problem or concern about CLIL in your subject(s)?
- What are the most effective aspects of the collaboration with the IML?
- What are the least effective aspects of the collaboration with the IML?
- How could this collaboration be improved?
- What further training do you need?

	– English
	– methodology of teaching content in English
	– other (*specify*): ……
	– none

- Did you participate in the workshops offered by the IML last year?

☐ No ☐ Yes

What was the most useful part of the workshops? ……..

APPENDIX 2

Questionnaire (Part2)

How difficult are these aspects of your teaching in English (1 - not difficult at all, 10 - very difficult)?

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1. selecting the contents of my subject to be taught in English										
2. finding authentic materials in English to be used in class										
3. preparing class materials in English (presentations, hand-outs, etc.)										
4. finding adequate words when preparing written materials in English										
5. finding technical terminology in English										
6. checking English pronunciation of technical terms										
7. assessing students' level of English										
8. adapting original English materials to my students' needs										
9. preparing lecture notes in English										
10. designing activities in English										
11. constructing written exam in English										
12. maintaining the quality of classes similar to that of my classes in Spanish										
13. holding students' interest when teaching in English										
14. getting my enthusiasm across										
15. explaining myself clearly in class										
16. explaining something in different ways										
17. finding adequate words when speaking English in class										
18. correcting students' utterances in class										
19. reformulating students' utterances in class										
20. giving a clear answer to students' questions unprepared										
21. giving appropriate examples unprepared										
22. reacting to students' actions spontaneously										
23. giving linguistic feedback to students										
24. correcting students' written work										
25. correcting students' oral performance										
26. evaluating students' written work										
27. evaluating students' oral performance										
28. other *(specify)* ……										

Language Value December 2013, Volume 5, Number 1 pp. 129-151
http://www.e-revistes.uji.es/languagevalue ISSN 1989-7103

'Does everybody understand?' Teacher questions across disciplines in English-mediated university lectures: An exploratory study

Emma Dafouz Milne
edafouzm@ucm.es
Universidad Complutense de Madrid, Spain
Davinia Sánchez García
mariadavinia.sanchez@udima.es
Universidad a Distancia de Madrid, Spain

ABSTRACT

This small-scale study attempts to analyse the role of English as a medium of instruction (EMI) in three different university lectures across disciplines. Following previous research (Crawford Camiciottoli 2004, Dafouz 2011, Dalton-Puffer 2007), the focus is placed on teacher discourse and, more specifically, teacher questions as fundamental tools that articulate classroom talk and prime strategies that promote interaction and co-construct meanings (Chang 2012, Sánchez García 2010). Our corpus includes four hours of teaching practice from Spanish EMI lessons where participants are non-native speakers of the vehicular language. Preliminary results suggest that questions tend to be greatly exploited discursive features and that confirmation checks and display questions seem to predominate over all other types of questions used in the classroom. Concurrently, the study suggests that there seem to be more commonalities than differences in the use of questions across disciplines. Additionally, it can be stated that lecturers need to be trained to benefit from the resources offered by their own discourse in order to facilitate students' content and language learning.

Keywords: *English as a medium of instruction, CLIL, teacher questions, language awareness, classroom discourse.*

I. INTRODUCTION

In the last decade, learning through English as a medium of instruction (or EMI) has become a widespread trend all over Europe. The driving forces leading to the expansion of this teaching and learning practice were grouped by Coleman (2006: 4) in seven categories, namely, internationalization of higher education, student exchanges, teaching and research materials, staff mobility, graduate employability, the market in international students, and Content and Language Integrated Learning (hereinafter CLIL). CLIL approaches, in the specific case of Spain, have been largely implemented at primary and secondary school levels as a top-down strategy stemming from the

DOI: http://dx.doi.org/10.6035/LanguageV.2013.5.7

respective regional governments. In the case of tertiary education, however, CLIL implementation strategies (or rather EMI strategies)[1] are mostly decentralized and follow a rather heterogeneous fashion with universities embarking on ambitious internationalization plans that, amongst other measures, promote English as the language of instruction both in undergraduate and postgraduate degrees (Dafouz and Núñez 2009, Dafouz et al. in press, Doiz et al. 2013, Fortanet-Gómez 2013).

Due to the rapidly growing pace of EMI instruction across settings, studies that attempt to throw light on this situation have multiplied and, concurrently, reflect the diversity of interests and concerns amongst scholars and practising teachers. In this line, EMI research spans, for example, from studies on classroom discourse and school practices, teacher cognition and beliefs, to the role of English as an international language or lingua franca in multilingual institutions (see Smit and Dafouz 2012: 1-12 for a detailed account of these matters). Within these macro research concerns, one of the specific aspects to which attention needs to be drawn is that of teacher discourse. The reason is two-fold: on the one hand, because in teacher talk students have to face complex discourses both from a conceptual (disciplinary) and a linguistic (foreign language) perspective; on the other hand, because it is essential to raise awareness, especially amongst the content specialists, of how teacher discourse can be used pedagogically to support students in their learning process. Given the wide set of features that may be analysed in teacher classroom discourse, our work will focus on the specific use that teachers make of questions in EMI settings. We are specifically interested in the role that questions play in the construction of learner knowledge, as they are one of the *main* devices that teachers use to co-construct meaning with learners. In this line, some of the initial research conducted thirty years ago already showed that teachers ask, on average, two questions a minute (Edwards and Mercer 1987). Admittedly, although the study of questions is not novel in the educational context and its centrality in the teaching and learning process has been discussed extensively (see Cazden 1988, Csomay 2002, Dillon 1988, Mehan 1979, Thompson 1998, van Lier 1996, Wu and Chang 2007), research into the roles and types of teacher questions used in EMI university contexts by

[1] The acronym EMI (English as the Medium of Instruction) rather than CLIL will be used throughout this study as it reflects more appropriately the content-oriented focus adopted by the universities taking part in our research. For terminological considerations regarding EMI/ICL/CLIL distinctions see Smit and Dafouz (2012: 4-5).

non-native content teachers is much less frequent. In addition, we intend to examine the use of questions from a cross-disciplinary perspective in order to discern possible relations between the academic disciplines under scrutiny (i.e. business studies, engineering and physics) and the presence (or absence) of certain question-types. Here we follow Dillon (1988: 115) when he rightly observed that although most "classrooms are full of questions [however, they are often] empty of inquiry since those who ask questions in school – teachers, texts, tests – are not seeking knowledge; [and] those who would seek knowledge – students – are not asking questions at all". Given this paradox, our study aims to answer the following:

- RQ 1: Are questions used in EMI classrooms? If so, what kinds of questions do teachers actually utilize in their lectures?
- RQ 2: What discourse function(s) are implemented through the questions used by teachers in lectures?
- RQ 3: Do the types of questions displayed vary depending on the disciplines taught?
- RQ 4: Do teacher questions actually trigger student participation?

II. THEORETICAL FRAMEWORK

II.1. Learning as a social and interactive process

Vygotskyan and neo-Vygotskyan approaches to learning and teaching underline the importance of learning as a social process and the role of discourse to enable the social construction of knowledge (Gibbons 2002, Mercer 2000, van Lier 1996, Vygotsky 1978, 1989). In Gibbons's words "the kinds of talk that occur in the classroom are critical in the development of how students learn to learn through language and ultimately how they learn to think" (2002: 25). From a social-interactionist perspective, it is important for students to engage in social classroom events that trigger off the thinking process and develop students' conceptual knowledge.

Interaction has been identified as playing a key role, since learning is viewed not only as an individual cognitive learning process but also as a social one, and learning occurs during the interactions that take place between individuals. In view of these principles, it is important that teachers promote student participation and foster negotiations of

meaning in the classroom so that learners are provided with opportunities to develop their cognitive ability, improve their linguistic skills and boost their learning process.

Moreover, from a second language acquisition angle, the additional claim is that interaction also provides opportunities for foreign language learning and development (Swain 1985, 1995, Long 1981, 1983). The research carried out in this line reveals that considerable amounts of high-quality comprehensible input (Krashen 1985) and opportunities to produce output through the interaction that takes place when negotiating meanings (Lyster 2007) may push students' L2 language learning.

II.2. Teacher questions in university lectures

The importance of interaction in university lectures is also gaining weight, in spite of the traditional assumption that tertiary education is mostly teacher-fronted and monologic (Goffman 1981). In fact, a number of recent studies claim that university lectures are gradually shifting away from being "an institutionalized extended holding of the floor" (Morell 2007: 223, Crawford Camiciottoli 2004) and becoming the means of a much more egalitarian and participatory methodology in which the role of the instructor is also moving from the main figure of knowledge-provider to that of facilitator in the learning process. As a result, much research has been conducted on the various textual and interpersonal discursive features that seem to promote more interactive lectures (Dafouz Milne and Núñez Perucha 2010, Morell 2004), by using different discourse structuring devices (Crawford Camiciottoli 2004, Young 1994) or by focusing on the use of questions across disciplines (Chang 2012, Sánchez García 2010, Thompson 1998).

By and large, whatever the educational context or level, questions seem to be key tools in the communicative exchanges that ensure a natural and equal interaction in the classroom (Sánchez García 2010). In the case of university lectures, they also seem to be one of the strategies that lecturers employ for very diverse reasons: to ease comprehension, support students' learning process, establish collaborative meaning-making amongst participants, test learners' knowledge, elicit information and avoid communicative breakdowns, among other things. Given the multi-faceted nature of

questions, the next section will tackle the myriad of typologies that have been used in the literature.

II.3. Classroom question typologies

Much ink has been spilt on the nature of questions (Cazden 1988, Chaudron 1988, Tharp and Gallimore 1988) and different classifications of these textual devices have been offered. Thompson (1998), for example, divided questions into *audience-oriented* and *content-oriented* devices, thus focusing on whether they addressed the learners and required their oral participation, or rather concentrated on the topics and subjects being dealt with. In her analysis of CLIL secondary classes in Austria, Dalton-Puffer (2007) maintained two well-established binary oppositions: (i) *display* and *referential* questions (following Mehan 1979) and (ii) *open* versus *closed* questions (Barnes 1969). The first polarity refers to whether the answer to the question is actually known by the questioner (i.e. *display*) or unknown (i.e. *referential*), while the second polarity distinguishes between those questions whose answers are limited to a 'yes' or 'no' response (i.e. *closed*) and those which allow for a more linguistically elaborated reply (i.e. *open*).

Answers to display questions are typically reduced and include a very limited number of words while referential questions have usually been defined as triggers of more authentic, longer, more complex and more involved responses on the part of the students. As a result, they may foster students' output and give them better opportunities for language production. Hence, it is believed that a high number of referential questions are ideally expected in classrooms, although some studies (Dalton-Puffer 2007, Long and Sato 1983, Musumeci 1996, *inter alia*) reveal that teachers tend to use more display questions than referential ones.

Dalton-Puffer (2007: 123-255) elaborates a further classification regarding the goal of questions in classroom settings and thus makes a distinction between *questions for facts*, *questions for explanations*, *questions for reasons*, *questions for opinions* and *meta-cognitive questions*, all of which can be 'moves' performed by either the teacher or the students.

In this study a combination of two taxonomies was adopted to categorize questions: Dalton-Puffer's (2007) model in CLIL secondary classrooms, and Sánchez García's

(2010) proposal on EMI university lectures. The resulting taxonomy, displayed below, integrates Dalton-Puffer's categories with some new ones to adapt better to the data found, while it also makes a distinction between questions (or moves) initiated by the teacher, questions initiated by students and questions asked by both sets of participants. Table 1 displays the taxonomy employed in the present analysis[2]:

Table 1. Question Taxonomy used in the study.

MOVES BY TEACHERS	MOVES BY STUDENTS	MOVES BY TEACHERS AND STUDENTS
Display questions	Questions seeking explanations	Confirmation checks
Referential questions	Questions seeking confirmation	Procedural questions
Rhetorical questions		Indirect questions
Retrospective questions		Repetition questions
Self-answered questions		Language questions

As indicated in Table 1, the question types analysed in the present study are (i) *display questions*, whose answer is known by the teacher, and uses them to find out the actual knowledge of students on a certain topic (e.g. "what are the advantages of exporting?"), (ii) *referential questions*, whose answer is not known by the teacher (e.g. "what sorts of ideas have you come up with?"), (iii) *rhetorical questions*, which are questions to which no answer is expected and are meant to make the audience think and reflect on something (e.g. "how can we face those industries?"), (iv) self-answered questions, which are immediately answered by the speaker himself/herself (e.g. "is it possible to be leading in one country and being completely inexistent in another?" "Yeah, it's possible. It happens"), (v) *retrospective questions*, which make hearers go back in time to revise some issues (e.g. "remember back to the uh, second class?"), (vi) *confirmation checks*, which aim at ensuring the audience's understanding of the topic/lecture (e.g. "OK? Do you understand?", "pardon?", "excuse me, what do you mean by that?", "did you say…?"), and (vii) *repetition questions*, which repeat the last word, utterance, idea or argument expressed (e.g. "increase demand, what was the second thing?").

[2] For reasons of scope and space, this study will only focus on those questions articulated by lecturers in their discourse.

III. METHODOLOGY

III.1. Data collection

The data gathered in order to answer the research questions consist of three university lectures conducted in English. The teachers and most of the students attending the lectures (with the exception of a low number of foreign students on Erasmus exchange programmes) are native speakers of Spanish and, therefore, English is treated in this context as a foreign language. The data used is a subset of the lectures gathered by the research group CLUE (Content and Language in University Education) based at the Universidad Complutense de Madrid[3]. The three lectures analysed, which were first videotaped and then transcribed manually, were gathered from three different universities in Madrid: Universidad Rey Juan Carlos, Universidad Carlos III, and Universidad Politécnica de Madrid. These universities were chosen by means of criterion sampling (Duff 2008) drawing on two major decisions: a) different lecturer profiles (i.e. prior experience in EMI instruction) and b) different disciplines under scrutiny (i.e. business, engineering and physics). As shown in Table 2 below, our data account for 240 minutes of teaching practice and a total of 30,209 words pertaining to the three different disciplines mentioned above.

Table 2. Data description.

LECTURE	DURATION	WORD COUNT	TOPIC	UNIVERSITY
Business	90 minutes	11,321	Company internationalization	Universidad Rey Juan Carlos
Physics	93 minutes	13,450	Mono- and poly-crystals deformation / weak and strong obstacles	Universidad Carlos III
Engineering	57 minutes	5438	Displacement of engines	Universidad Politécnica de Madrid
Total	240 minutes	30,209		

[3] The CLUE Project (Content and Language in University Education, REF: GR60/09) is a consolidated research group founded in 2006 and coordinated by Dr. Emma Dafouz. The project has worked under the CLIL/EMI umbrella terms distributing questionnaires, gathering and analysing data to provide a quantitative and qualitative evaluation of the implementation of CLIL/EMI and internationalization strategies in Spanish tertiary contexts.

The three lectures chosen for the study belong to three different disciplines in order to not only provide an account of how English as a foreign language is used as a medium of instruction in tertiary education, but also to consider any possible differences and similarities across disciplines.

Content-wise, the Business session develops around the concept of company globalization and internationalization. It is part of a course in the bachelor's degree of Business Administration. The Physics lecture focuses on the behaviour of mono- and poly-crystals in deformation and on strength mechanisms for weak and strong obstacles. It took place within a BA programme on nuclear physics. Finally, the Engineering lecture has displacement of engines as the main topic and was part of a BA degree in engineering. The three lecturers are specialists in the content matter and for all three English is a foreign language.

III. 2. Data analysis

The aforementioned data were analysed using the following procedure. All three lectures were transcribed manually from videotapes provided by the CLUE research group. This was followed by the identification of all the instances of questions occurring in the transcripts. Second, a qualitative approach was accomplished, which resulted in the functional classification of the different types of questions[4]. For analytical purposes, a question was identified not only on the basis of its syntactic form (i.e. inversion, wh- words, etc.) but also on the intonation and utterance function. In the functional analysis, a number of questions proved to be clearly multifunctional, meaning that there was no one-to-one relationship between its linguistic form and discourse function. Thus, a context-sensitive analysis of each question had to be conducted prior to its final classification. Chang (2012: 110) also reported on this issue of multi-functionality, suggesting that the more common the question form was, the more variable its functions were.

Third, the categorization was complemented with a quantitative analysis by calculating the frequency of use of the aforesaid linguistic phenomena in order to get a clearer

[4] In order to guarantee inter-rater reliability, the two researchers initially coded questions independently, following the chosen taxonomy, and later checked for agreement. Cases for which there were different codes were re-examined and consensus was reached.

account of the findings encountered and ease the comparison of the three lessons. For comparative purposes, and given that the lectures differ in length, results have been normalized taking into account the number of questions occurring per 1000 words[5]. The results were displayed both using percentages (when the lectures were not compared across disciplines but treated collectively) and normalized findings (when compared cross-disciplinarily). A number of excerpts from the dialogues in the lectures are included to illustrate the discussion of results.

IV. RESULTS AND DISCUSSION

In the four hours of teaching practice analysed, a total of 13.9 questions per 1000 words were identified, a finding that offers a positive answer to the first part of our research question 1 (RQ1), that is, that questions are indeed used in EMI classrooms as in other teaching contexts. The second part of RQ1 referred to the types of questions that lecturers utilized in their sessions and the study reveals that the four more frequent question types in our data are *confirmation checks* (50%), followed by *self-answered questions* (22%), *display questions* (20%) and, finally, *referential questions* (8%) as Figure 1 below shows:

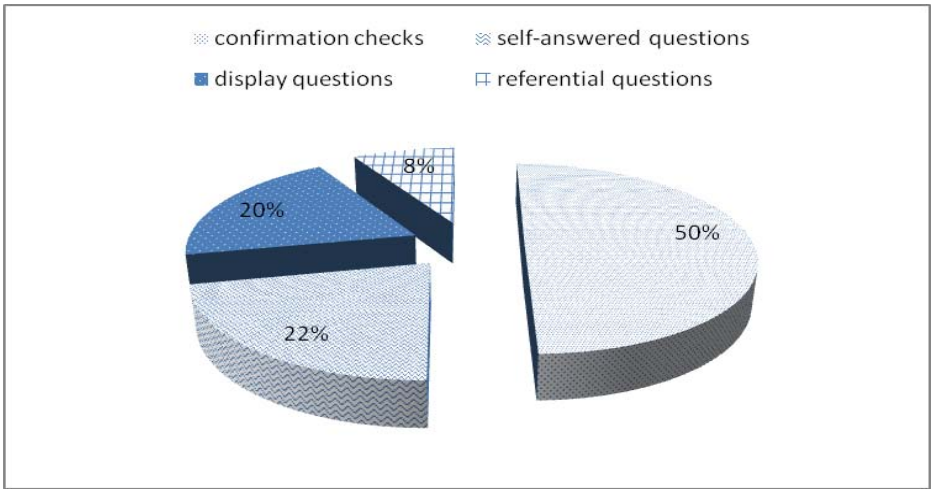

Figure 1. Most frequent question types in EMI classrooms.

[5] Normalization is a common way to convert raw counts into rates of occurrence, so that the scores from texts of different lengths can be compared (see Biber 1993 for a full account of this frequently used method).

By types, *confirmation checks* are the most commonly used type of question in the three lectures examined, regardless of the discipline. From a quantitative perspective, our findings differ notably from Chang's study (2012: 109) in terms of the frequency of comprehension checks on academic divisions similar to ours (namely, Humanities and Arts, Social Sciences and Education, and Physical Sciences and Engineering). In Chang's work the frequency of questions used by native English-speaking lecturers to check student's comprehension was especially low. Although Chang does not provide further explanations to this finding, when compared to our study, one could argue that in Chang's paper (with data drawn from the MICASE corpus) both lecturers and students have English as their native or first language and thus comprehension problems derived from language difficulties will most likely not be so relevant. In contrast, the lecturers and students in our research have English as a foreign language, a difference which may have an effect on both the way lecturers articulate their discourse (Thøgersen and Airey 2011) and/or in the way students understand it.

On a more refined level, and in order to seek possible reasons regarding the striking numerical differences between Chang's study and our own, we revised the composition of these units qualitatively and discovered that 89.9% of the questions classified as comprehension checks corresponded to the form 'OK?'. The example below illustrates a typical instance found in our data:

> (Example 1) I mean, for instance, imagine, there is an activity, the research and development. It is carried out in one particular country. It can lead you, it could lead you to have losses, **OK?** (pause) No problem with that in that particular country, but in the global… When considering it global, you will make more profit. **Do you know what I mean?** But the point is that you are trying to maximize the value on a global basis, considering everything, **OK?** (pause) So, that´s it.

In a more detailed analysis, we realized that the majority of these confirmation checks were not actually (or not only) directed by the teachers in our data to the student-audience so as to verify whether they follow the ideas in the lectures adequately. In our data this device seems to be largely used as a transition marker, in that, when uttered, the lecturer is making a short pause to think about the next coming idea. In other words, it looks as if the primary goal of those "first-approach" confirmation checks used by lecturers is not to obtain verification from students but rather from himself/herself and could often be translated in teachers' minds as "OK, this point is covered, let's move on

to the next one". As far as our three teacher subjects are concerned, our data suggest that when in search of audience agreement, lecturers use other types of confirmation checks, that may be either more explicit (e.g. do you understand?, is it clear?) or more extended (e.g. is it OK?), while at the same time they pause for a few seconds seeking, maybe, some verbal or non-verbal response from students. In any case, in our sample these checks are rather scarce.

Regarding research question 3 (RQ3), by disciplines, *confirmation checks* appear in the Business class 5.8 times per 1000 words, 3.8 were produced in the Engineering realm, and 2.7 in Physics, as shown in Figure 2.

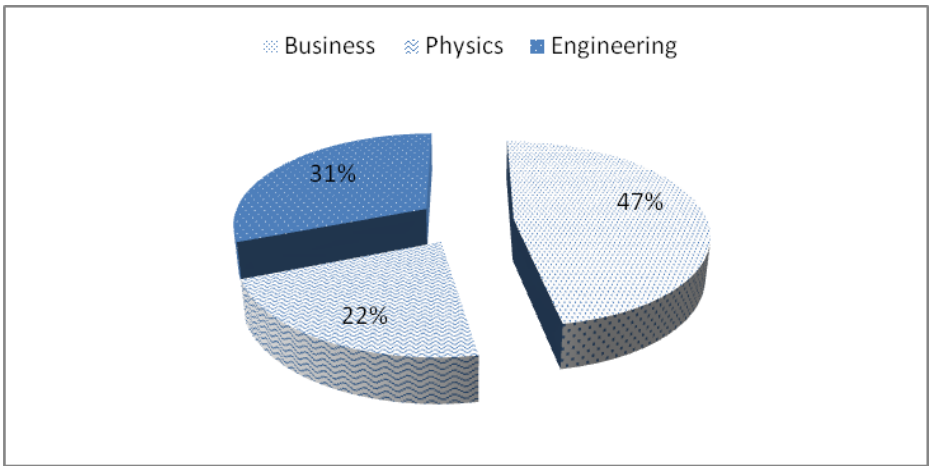

Figure 2. Confirmation checks by disciplines.

From this disciplinary point of view, this time our results do match Chang's study (2012), since it also yields a higher number of comprehension checks in the Social Sciences, or 'soft sciences' (Neumann 2001), than in the Physical Sciences and Engineering, or 'hard sciences'. For Chang (2012: 113), this result could be linked to differences in the disciplinary cultures examined and thus concludes:

> In the hard fields, the process of knowledge production is cumulative in nature; more shared background knowledge and standard procedures of knowledge making can thus be established. Due to this characteristic of knowledge production, the professors in these fields have developed a less interactive style of lecture discourse. [In contrast] the process of establishing new knowledge in the soft fields tends to be more persuasive and dialogic in nature and does not show the same linear developmental patterns as that in the hard fields. In conjunction with the less hierarchical power structure among the community members, this fact might explain why professors in the two soft divisions tend to use questions to engage their students and to manage the teaching flow slightly more often than their counterparts in the hard fields.

Although the reduced size of our dataset calls for great caution in the reading of the findings, it does trigger off interesting questions regarding disciplinary differences in

the construction of knowledge and, concurrently, in interactional classroom behaviour (Neumann 2001).

Self-answered questions were the second most frequent question type in all three lectures except in Engineering, where they were outnumbered by display and referential questions. As seen in Figure 3, once again the Business lecture is the one containing the highest number of questions (n = 4 per thousand words), followed by the Physics session (n = 1.1 per thousand words) and finally the Engineering lecture (n = 0.3 per thousand words).

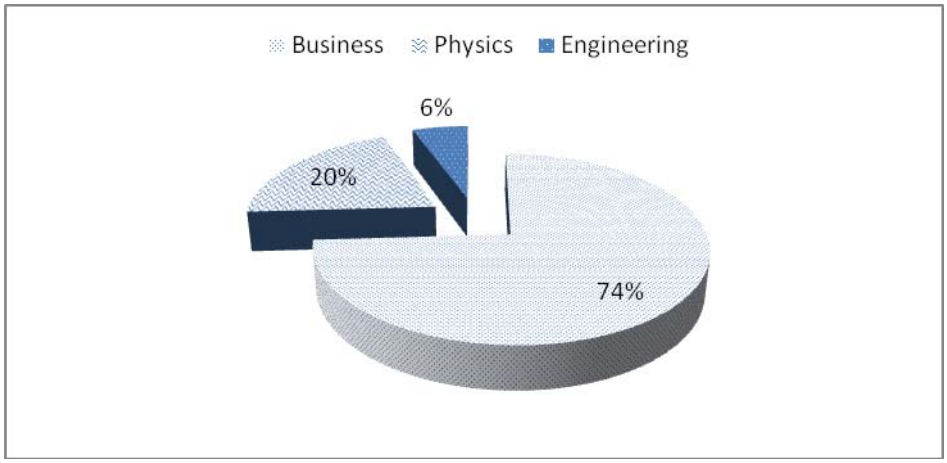

Figure 3. Self-answered questions by disciplines

These types of questions do not seem to favour an intervention on the part of the students since the teacher offers a prompt reply with no pause, as if he/she were talking to himself/herself while paving the way for the next point in the lecture or the further development of an idea. On the basis of this finding, we coincide with Bamford's study (2005) when she views lecturers' control of both the question and answer as an effective attention-focusing mechanism. Bamford suggests that by reproducing the prosody of spontaneous conversation, such question/answer sequences can "serve to induce the student into thinking that what is taking place is an interactive sharing of ideas and information" (Bamford 2005, quoted in Chang 2012: 126).

Additionally, self-answered questions also seem to play a discourse guiding function, meaning that they may be used by the lecturer in guiding himself/herself through the unfolding speech so that new topics or subtopics can be introduced or developed. Both of these functions can be traced in the examples below:

(Example 2) Teacher: **what happens if another dislocation is coming after this one?** It will find not only the obstacle, but also the dislocation loop in here. So, it will have a more complex interaction.

(Example 3) Teacher: (...) I have a carbon precipitate. I have just some impurities of carbon in my matrix, but they are just what is called a solid solution (...) **What happens?** We can have two possibilities. If the impurity atom it is of smaller size than the one from the matrix, then we will have some tensile stresses on the surrounding lattice. While if we have that the impurity it is bigger one, then I will have compressive stresses in the lattice.

Finally, *display* and *referential questions*, although present in all three lectures, show certain differences when it comes to their frequency of use, as Figure 4 shows. Overall, there are 4.9 display questions and 2.1 referential ones.

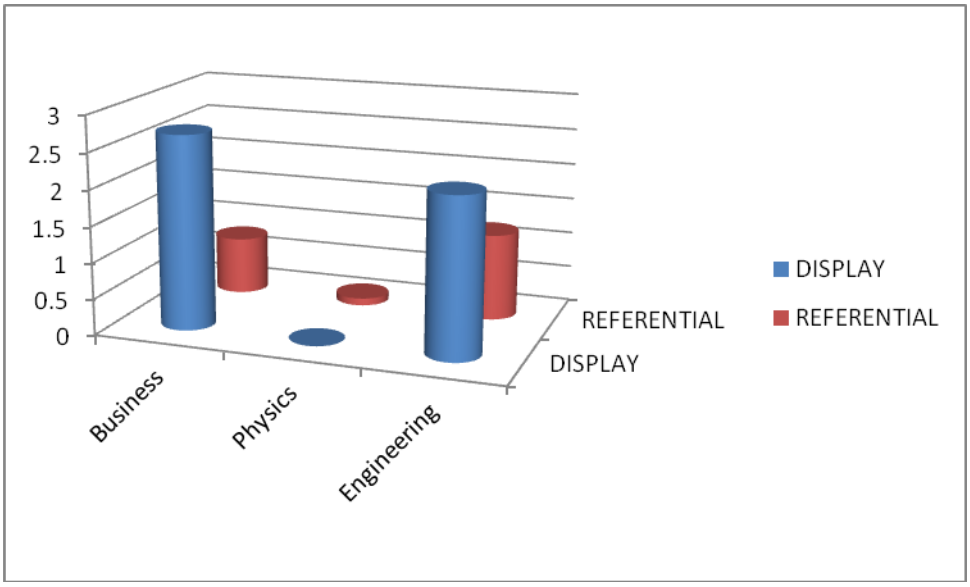

Figure 4. Display and referential questions by disciplines.

As shown in Figure 4 above, display questions (2.7) are clearly more numerous than referential ones (0.8) in the Business lecture. In the same vein, display questions (2.2) nearly double referential ones (1.2) in the Engineering session. As a counterpoint, display (0) and referential questions (0.1) barely take place in the Physics classroom. Again, our findings match Chang's study (2012) in that more audience-oriented questions than content-oriented questions are found in the Social Sciences and fewer in the Physics and Engineering divisions.

From a second language acquisition perspective, referential questions, as was mentioned earlier, are believed to trigger longer, more authentic and more involved contributions on the part of the student than display questions (Dalton-Puffer 2007: 96).

The reason for this lies in the genuine interrogative nature of referential questions, whereby participants exchange real information unknown to the teacher and most likely to their fellow students. Nevertheless, in our data, students' output to referential questions was extremely limited and often reduced to minimal responses as the examples below illustrate. This finding could be tied in to the fact that most referential questions are formally closed. In other words, they only offer the audience the possibility of answering with "yes" or "no" responses as shown in examples 4, 5 and 6:

(Example 4) Teacher: **Some question about the theory that we saw yesterday?**

Student: No.

(Example 5) Teacher: **Have you seen that the commercials for Volkswagen have been reproduced in German all around the world, even here?**

Student: Yes.

(Example 6) Teacher: you wouldn't be efficient if you only produced mobile phones for Swedish people, OK? Or Norwegian people, imagine. **How many Norwegians can there be?**

Student: four million.

Teacher: four million, puff.

Once again, although these questions in theory present an excellent opportunity to create a conversational exchange between participants, in most cases either no output (see example 4) or very reduced discourse (i.e. one- or two-word responses) was produced by students as examples 7 and 8 reveal; that is, short exchanges with few words and simple grammar.

(Example 7) Teacher: **what phases are you comparing?**

Student: atom

Student: field

(Example 8) Teacher: **how much phase does the field go through in the time interval between the pulses?**

Student: um... (that) length?

On the whole, these findings inevitably prompt a reflection on the role of questions in lecture discourse and in classroom learning in general. Moreover, it also brings to the foreground issues of teaching methods in university settings. In this line, Musumeci (1996) suggested that interaction in university lectures was not to be expected by either teachers or students as lectures were not the appropriate genre for interactional exchanges to occur in. To look into this matter, prospective work could take into

account classroom dynamics and the overall teaching aim of university lectures, as indeed in many cases the most important aspect of these sessions may not be classroom interaction after all.

Research question 4 (RQ4) concerning the relationship *between teacher questions and student interaction* still needs to be answered. By participants, it is interesting to highlight that 9.6 questions out of the overall 13.9 questions per 1000 words were teacher-initiated questions, whereas only 4.3 were questions articulated by students. Analysis of the data already showed that the number of questions uttered by teachers is not a transparent sign of classroom interaction. In other words, teacher questions do not necessarily correlate with student response, as the table below shows:

Table 3. Questions per 1000 words – interaction correlation.

	BUSINESS	PHYSICS	ENGINEERING	TOTAL
Total Questions	15.3	4.6	8.1	28
Total questions triggering student interaction	5.7	2	4.4	12.1

However, the findings also suggest that the more numerous the teacher questions are, the higher the chances of student response will be. For example, the Business lecture is the one containing the highest number of questions (n = 15.3) and consequently the one that yields the highest level of student response or interaction (5.7 instances). The Engineering lecture appears in second place with a total of 8.1 questions, out of which 4.4 trigger interaction. And finally, the lecture producing the fewest conversational exchanges as the result of questioning is the Physics session with 4.6 questions and 2 cases of interaction per thousand words. In any case, and in a rough calculation, less than 50% of the questions asked by teachers are actually responded to by learners. The inevitable question that is raised here and to which this study can provide no definite answer is whether in tertiary settings, or more precisely in lectures, successful education depends on question-answer interaction. Interestingly, Smit (2010: 241) showed that the international students in her hotel-management classrooms prefer some sessions to be teacher-fronted or lecture-based rather than interactive, as this grants them the opportunity to "gather a great deal of new information" without having the need to be

exposed to interactional practices. Whether this option is preferred by the students in our data or not would need to be tested in prospective stages of research.

V. CONCLUDING REMARKS AND PEDAGOGICAL IMPLICATIONS

This paper focused on the use of questions by three university teachers in three different Spanish universities and across three different disciplines. Specifically, the study reported that questions are indeed used in English medium instruction lectures and that the most recurrently used by all three teachers and disciplines are, in identical order, confirmation checks, followed by self-answered questions and display questions. This overall finding seems to suggest that, at least as far as our data suggest, there are far more similarities than differences between the disciplines under scrutiny with regard to the use of questions in academic lectures. This finding matches other studies dealing with lecturing performance across disciplinary subjects (Chang 2012) and even languages (see Dafouz Milne and Núñez Perucha 2010 for a study of L1/L2 lecturing performance), thereby suggesting that maybe the *generic features* of lectures predominate over differences in the disciplinary culture. In other words, it could be claimed that lectures in an educational setting seem to transcend the academic disciplinary culture and exhibit certain uniformity or what we have called a common macro-structure. Admittedly, the limited size of our sample and our focus on lectures as the sole classroom speech event analysed necessitates a cautious interpretation of the findings and calls for further research.

From an EMI perspective, what remains to be answered is whether differences in teacher question types could somehow also be influenced (whether consciously or unconsciously) by considerations of language proficiency as Dalton-Puffer (2007: 125) suggested. In other words, could questions be articulated and used by teachers as a kind of scaffolding or compensatory strategy to make up for potential difficulties derived from what instructors think may be students' limited foreign language competence? Or could questions be linked to what content teachers have found to be the usual (L1) conceptual difficulties students face in university disciplines and education? In order to answer such questions, contrastive data from L1 and L2 lecturer performance might be of interest in trying to disentangle specific EMI variables from disciplinary differences

or classroom discourse features. It might also be revealing to conduct longitudinal studies such as those by Smit (2010) and Dalton-Puffer (2007) to track possible changes in the types of teacher questions used over longer periods of time. Smit (2010), for example, found in her ethnographic study that both teachers and students varied their questioning behaviour across time and that while lecturers gradually shifted from more display questions to more referential ones, students moved from shorter, sometimes minimal one-word responses, to more extended discourse.

All in all, what is indeed a difference in this study with respect to other research conducted on teacher questions in university settings is the role of English as the medium of instruction by non-native speaker lecturers and students. In these settings, language expertise authority cannot be automatically expected from lecturers (Dafouz 2011, Hynninen 2012, Smit 2010). Consequently, an interesting shift in the traditionally hierarchical roles found in university contexts may be found, with a more "democratic stance" developing between teacher and student interaction (see Dafouz et al. 2007), as teachers often (need to) negotiate foreign language terms and expressions with students and use these as language informants. Whether this democratic, less-hierarchical atmosphere in EMI classrooms is actually deliberately enacted by teachers or the inevitable consequence of some teachers having (initially) a reduced repertoire is something to be researched[6].

To conclude, with this study our intention was to raise awareness of the importance of teacher discourse, and more specifically teacher questions, in EMI settings. Our results should be interpreted with caution and may not be generalized, since the analysis has dealt with a limited-size corpus. For this reason, further research on larger sets of data needs to be undertaken so that additional conclusions may be drawn.

From a pedagogical perspective, we believe that awareness of teacher discourse is essential since the large majority of teachers working in EMI contexts (at least in Spain) are not language experts, and thus need to be trained to be attentive to their own discourse in the classroom and to realise that language can be used as a supporting strategy for student learning. Higher education teachers need to be aware of how

[6] Dafouz (2011: 203-204) observed, through face-to-face interviews, that teachers often expressed concern regarding their "limited" interpersonal skills when, for example, they had to solve misunderstandings, negotiate deadlines with students, or use an informal register or humorous strategies to empathise with learners.

different interactional strategies (e.g. questions) can facilitate or limit the amount of content learning and language learning that students may achieve. As Stoller (2004: 45) clearly stated "(…) language [can]not be regarded as a mere vehicle for the transport of knowledge. Rather, the language itself would have to be seen as a constitutive element for the construction of knowledge". This last thought needs to be a fundamental component in the teacher education courses that different universities are devising (see Klaasen 2008) in order to provide more effective support for content teachers in this new and challenging working scenario.

REFERENCES

Bamford, J. 2005. "Interactivity in academic lectures: The role of questions and answers". In Bamford, J. and M. Bondi (Eds.) *Dialogue within Discourse Communities: Metadiscursive Perspectives on Academic Genres.* Tubingen, Germany: Max Niemeyer, 123-145.

Barnes, D. 1969. "Language in the secondary classroom". In Barnes, D., J. Britton and M. Torbe (Eds.) *Language, the Learner and the School.* Harmondsworth, UK: Penguin, 9-87.

Biber, D. 1993. "Representativeness in corpus design" *Journal of Literary and Linguistic Computing* 8 (4), 243-257.

Calderhead, J. 1981. "Stimulated recall: A method for research on teaching". *British Journal of Educational Psychology* 5, 211-217.

Cazden, C.B. 1988. *Classroom Discourse: The Language of Teaching and Learning.* Portsmouth, NH: Heinemann.

Chang, Y. 2012. "The use of questions by professors in lectures given in English: Influences of disciplinary cultures". *English for Specific Purposes* 31, 103-116.

Chaudron, C. 1988. "Teacher talk in second language classrooms". In Chaudron, C. (Ed.) *Second Language Classrooms*. Cambridge: Cambridge University Press, 50-89.

Coleman, J. 2006. "English-medium teaching in European higher education". *Language Teaching* 39, 1-14.

Crawford Camiciottoli, B. 2004. "Interactive discourse structuring in L2 guest lectures: Some insights from a comparative corpus-based study". *English for Specific Purposes* 3, 39-54.

Csomay, E. 2002. "Variation in academic lectures: Interactivity and level of instruction". In Reppen, R.S., M. Fitmaurice and D. Biber (Eds.) *Using Corpora to Explore Linguistic Variation*. Amsterdam: John Benjamins, 205-224.

Dafouz, E. 2011. "English as the medium of instruction in Spanish contexts: A look at teacher discourses". In Ruiz de Zarobe, Y., J.M. Sierra and F. Gallardo del Puerto (Eds.) *Content and Foreign Language Integrated Learning. Contributions to Multilingualism in European Contexts*. Bern: Peter Lang, 189 – 205.

Dafouz, E., Núñez, B., and Sancho, C. 2007. "Analysing stance in a CLIL university context: Non-native speaker use of personal pronouns and modal verbs". *International Journal of Bilingualism and Bilingual Education* 10 (5), 647-662.

Dafouz, E. and Núñez, B. 2009. "CLIL in higher education: Devising a new learning landscape". In Dafouz, E. and M.C. Guerrini (Eds.) *CLIL across Educational Levels: Experiences from Primary, Secondary and Tertiary Contexts.* Madrid/London: Santillana Educación / Richmond Publishing, 101-112.

Dafouz Milne, E. and Núñez Perucha, B. 2010. "Metadiscursive devices in university Lectures: A contrastive analysis of L1 and L2 teacher performance". In Dalton-Puffer, C., T. Nikula and U. Smit (Eds.) *Language Use and Language Learning in CLIL Classrooms*. Amsterdam: John Benjamins, 213-232.

Dafouz, E., Camacho, M., and Urquía, E. in press. " "Surely they can't do as well": a comparison of business students' academic performance in English medium and Spanish-as-first-language medium programmes". *Language and Education*. DOI: 10.1080/09500782.2013.808661

Dalton- Puffer, C. 2007. *Discourse in Content and Language Integrated Learning (CLIL) Classrooms.* Amsterdam: John Benjamins.

Dillon, J.T. 1988. "Questioning in education". In Meyer, M. (Ed.) *Questions and Questioning*. Berlin: Walter de Gruyter, 98 – 117.

Doiz, A., Lasagabaster, D. and Sierra, J.M. 2013. *English-Medium Instruction at Universities. Global Challenges*. Bristol: Multilingual Matters.

Duff, P. 2008. *Case Study Research in Applied Linguistics.* Routledge: New York/London.

Edwards, D. and Mercer, N. 1987. *Common Knowledge: The Development of Understanding in the Classroom*. London: Methuen.

Fortanet-Gómez, I. 2013. *CLIL in Higher Education. Towards a Multilingual Language Policy.* Bristol: Multilingual Matters.

Gibbons, P. 2002. *Scaffolding Language, Scaffolding Learning: Teaching ESL Children in the Mainstream Classroom*. Portsmouth, NH: Heinemann.

Goffman, E. 1981. "The lecture". In Goffman, E. (Ed.) *Forms of Talk.* Philadelphia: University of Pennsylvania Press, 162-195.

Hynninen, N. 2012. "ICL at the micro-level: L2 speakers taking on the role of language experts". In Smit, U. and E. Dafouz (Eds.) *Integrating Content and Language in Higher Education. Gaining Insights into English-Medium Instruction at European Universities. Special Issue of AILA Review* 25, 13-29.

Klaassen, R.G. 2008. "Preparing lecturers for English-medium instruction". In Wilkinson, R. and V. Zegers (Eds.) *Realizing Content and Language Integration in Higher Education.* Maastricht, Netherlands: Maastricht University, 32-43.

Klaassen, R. 2008. "Preparing lecturers of English-medium instruction". In Wilkinson, R. and V. Zegers (Eds.) *Realizing Content and Language Integration in Higher*

Krashen, S.D. 1985. *The Input Hypothesis: Issues and Implications*. London: Longman.

Long, M. 1981. "Input, interaction and second language acquisition". In Winitz, H. (Ed.) *Native Language and Foreign Language Acquisition.* Annals of the New York Academy of Science, 379, 259-278.

Long, M. 1983. "Native speaker/Non-native speaker conversation and the negotiation of comprehensible input". *Applied Linguistics* 4, 126-141.

Long, M. and Sato, C.J. 1983. "Classroom foreign talk discourse: Forms and functions of teachers' questions". In Seliger, H.W. and M.H. Long (Eds.) *Classroom Oriented Research in Second Language Acquisition*. Rowley, MA: Newbury House, 146-165.

Lyster, R. 2007. *Learning and Teaching Languages through Content: A Counterbalanced Approach*. Amsterdam/Philadelphia: John Benjamins.

Mehan, H. 1979. *Learning lessons: Social Organization in the Classroom.* Cambridge: Harvard University Press.

Mercer, N. 2000. *Words and Minds. How We Use Language to Think Together*. London: Routledge.

Morell, T. 2004. "Interactive lecture discourse for university EFL students". *English for Specific Purposes* 23 (3), 325-338.

Morell, T. 2007. "What enhances EFL students' participation in lecture discourse? Student, lecturer, and discourse perspectives". *Journal of English for Academic Purposes* 6 (3), 222-237.

Musumeci, D. 1996. "Teacher-learner negotiation in content-based instruction: Communication at cross purposes". *Applied Linguistics* 17, 3, 286-325.

Neumann, R. 2001. "Disciplinary Differences and University Teaching". *Studies in Higher Education* 2, 135-146.

Sánchez García, D. 2010. *Classroom Interaction in University Settings: The Case of Questions in Three Disciplines.* M.A. Thesis, Universidad Complutense de Madrid. <http://eprints.ucm.es/12793/1/Davinia_Sanchez.pdf>

Smit, U. 2010. *English as a Lingua Franca in Higher Education. A Longitudinal Study of Classroom Discourse*. Berlin: De Gruyter Mouton.

Smit, U. and Dafouz, E. 2012. "Integrating content and language in higher education. An introduction to English-medium policies, conceptual issues and research practices across Europe". In Smit, U. and E. Dafouz (Eds.) *Integrating Content and Language in Higher Education. Gaining Insights into English-Medium Instruction at European Universities. Special Issue of AILA Review* 25, 1-12.

Stoller, F. 2004. "Content-based instruction: Perspectives on curriculum planning". *Annual Review of Applied Linguistics* 24, 261–283.

Swain, M. 1985. "Communicative competence: Some roles of comprehensible input and comprehensible output in its development". In Gass, S. and C. Madden (Eds.) *Input in Second Language Acquisition*. Rowley, MA: Newbury House, 235-253.

Swain, M. 1995. "Three functions of output in second language learning". In Cook, G. and B. Seidlhofer (Eds.) *Principle and Practice in Applied Linguistics: Studies in Honour of H. G. Widdowson*. Oxford: Oxford University Press, 125-144.

Tharp, R.G. and Gallimore, R.G. 1988. *Rousing Minds to Life: Teaching, Learning and Schooling in Social Context.* Cambridge: Cambridge University Press.

Thøgersen, J. and Airey, J. 2011. "Lecturing undergraduate science in Danish and in English: A comparison of speaking rate and rhetorical style". *English for Specific Purposes* 30, 209 – 221.

Thompson, S. 1998. "Why ask questions in monologue? Language choices at work in scientific and linguistic talk". In Hunston, S. (Ed.) *Language at Work*. Clevedon: BAAL/Multilingual Matters, 137-150.

Van Lier, L. 1996. *Interaction in the Language Curriculum: Awareness, Autonomy and Authenticity*. Harlow: Longman

Vygotsky, L. 1978. *Mind in Society: The Development of Higher Psychological Processes.* Cambridge: Harvard University Press.

Vygotsky, L. 1989. *Thought and Language*. Cambridge, MA: MIT Press.

Wu, Y. and Chang, Y. 2007. "Questioning in elementary English classes co-taught by a native and a non-native English-speaking teachers". Paper presented in *The second Hsinchu City's elementary school English collaborative teaching conference*. Hsunchu, Taiwan: English Education Council, Hsinchu City Government.

Young, L. 1994. "University lectures – Macro-structures and micro-features". In Flowerdew, J. (Ed.) *Academic Listening. Research Perspectives.* Cambridge: Cambridge University Press, 159-176.

Received: 3 May 2013

Accepted: 24 August 2013

Cite this article as:

Dafouz Milne, E. & Sánchez García, D. 2013. "'Does everybody understand?' Teacher questions across disciplines in English-mediated university lectures: An exploratory study". *Language Value* 5 (1), 129-151. Jaume I University ePress: Castelló, Spain. http://www.e-revistes.uji.es/languagevalue. DOI: http://dx.doi.org/10.6035/LanguageV.2012.5.7

ISSN 1989-7103

Language Value December 2013, Volume 5, Number 1 pp. 152-155
http://www.e-revistes.uji.es/languagevalue ISSN 1989-7103

BOOK REVIEW

Multilingual Higher Education. Beyond English Medium Orientations
Christa van der Walt
Multilingual Matters: Bristol, 2013. 204 pages. ISBN-13: 978-1-84769-918-3

Reviewed by Ana Bocanegra-Valle
ana.bocanegra@uca.es
Universidad de Cádiz, Spain

Multilingual Higher Education. Beyond English Medium Orientations deals with the complexity of learning and teaching in multilingual higher education (HE) environments. Multilingual Matters has included this volume in the series "Bilingual Education and Bilingualism", the same series that includes the latest books published on Content and language integrated learning (CLIL) (see Fortanet-Gómez 2013) or English-medium instruction in HE (see Doiz et al. 2013). However, rather than furthering the discussion on CLIL or English-medium programmes, what this book does is to challenge the view that CLIL programmes are supportive of multilingual education. As the author herself explains, the implementation of CLIL predominantly at the primary and secondary school levels in Europe is often understood as the introduction of English alongside local languages, and this trend addresses a bilingual, rather than a multilingual, dimension of language education. This is very probably the main contribution of this publication to the field: the advocacy of a new conception of multilingualism beyond "English-only multilingualism" so that to succeed at the internationalised HE level students should be required to develop literacy in academic English plus other languages.

Even though this volume may be of interest to teachers and researchers around the globe (84 different countries are mentioned throughout the book), it is a timely publication of particular relevance for European readers. With the backdrop of the European Union and for more than fifty years, the Council of Europe has been promoting educational policies that strengthen multilingualism, linguistic diversity and language rights. Multilingualism has become an EU policy in its own right, which as a result enhances

DOI: http://dx.doi.org/10.6035/LanguageV.2013.5.8

its relevance. The Council commits EU member states to (i) promoting linguistic diversity in the belief that Europe is multilingual and that all languages in the European area are equal and necessary to deepen mutual understanding; (ii) maintaining valuable modes of communication and expressions of identity; and (iii) consolidating democratic citizenship and sustaining social cohesion. The Council of Europe has taken the position that the maintenance of linguistic diversity should be pursued and, hence, prioritises multilingualism as a key policy goal; it promotes the development of multilingual education policies to strengthen the European heritage of cultural and linguistic diversity and increases public awareness of the part played by languages in forging a European identity. Examples of this policy are the guiding principles, the recommendations and other initiatives launched by the Council and summed up in the contributing paper to the 50th anniversary of the European Cultural Convention (Council of Europe 2006).

This book is divided into five chapters. Chapter 1 "The special place of Higher Education" is a general introduction to the whole book and portrays HE as a specific case in education. Van der Walt acknowledges "language as a resource" and claims the need to reconceptualise HE worldwide in terms of multilingualism and balancing local and global interests. In this chapter, two innovative constructs emerge: on the one hand, "vertical mobility", or the way school education contributes to widen the participation of minoritised learners and students in HE and its rapid expansion, and on the other, "horizontal mobility" (also "transnational mobility") or the movements of students between countries for the provision of education to linguistically diverse students.

In Chapter 2 "Linguistic diversity in higher education: Official and unofficial multilingual settings", van der Walt pays a closer look at HE institutions in the five continents to, among other things, "invoke the concept of *ecology* as a conceptual lever to destabilise monolingual orientations to language planning, policy and practices in HE" (p. 49). Indeed, the most interesting point raised in this chapter is the discussion on worldwide multilingual education, which is not meant to provide a thorough review of countries and their language policies but "a sense of the ubiquity of multilingualism in the HE contexts" (p. 49). In line with this, seven multilingual HE contexts are discussed, particular attention being paid to the historical, socio-cultural, cultural, ideological and socio-psychological factors that determine the development of

bi-/multilingual education: Africa, Latin America and the Caribbean, Northern America, Asia, the Russian Federation and Eastern Europe, Western Europe and the Middle East.

Chapter 3 "Managing the consequences of English-plus multilingualism: The development of multiliteracies" focuses on the fields of English for Specific and Academic Purposes (ESP/EAP) and the "academic literacies" movement as responses to the demand for language support to be offered particularly in English. Here, the author explores the influence of language learning and teaching paradigms on the acquisition of academic literacy, discusses the hegemony of English as the main and most popular language of science, and examines the possibilities of situated learning for academic literacy development in the terms described by Lave and Wenger (1991).

The main argument underlying Chapter 4 "Multilingual pedagogy in higher education classrooms: Approaches and techniques" is that "planning of multilingual practices needs to happen at classroom level by thinking beyond institutional language policies" (p. 161). This is a practical chapter in which multilingual pedagogy is conceptualised as a result of the tensions between institutional practices and prevailing classroom practices. Throughout this chapter van der Walt elaborates on four of the strategies proposed by García (2009) for bilingual primary and secondary school contexts and shows examples of how these can be achieved in HE classrooms. Such strategies are: institutional code-switching, co-languaging, translanguaging, preview-view-review; together with a fifth strategy added by the author herself: simultaneous translation.

The last chapter "From *mono* to *multi*: New thinking about higher education" is a final reflection on multilingual HE and addresses the perspectives of "language as a tool for learning" and "language as an identity marker" as contributors to enhancing multilingual literacies in HE contexts. These imply a complex two-way relationship in which "language is a *tool* that enables/prevents the development of an academic (even professional) *identity*" and "language is an *identity* marker that enables/prevents the successful use of language as a *tool* to become a member of a particular academic community in the process of qualifying for a particular profession" (p. 165). This chapter contains an interesting section of future directions for research in multilingual HE, namely: the effects of multilingual strategies on learning, multilingual texts as images, and mobile learning and electronic learning support.

As an original contribution to the field, this volume makes excellent use of practical cases ("A case in point", included in all chapters) to further the author's discussion and illustrate the complexities of learning and teaching in multilingual environments. It also provides a very useful summary of the most important challenges faced by multilingual HE contexts around the world. I strongly recommend it to teachers in multilingual HE settings and researchers in bi-/multilingual education.

REFERENCES

Council of Europe 2006. *Plurilingual Education in Europe. 50 years of international co-operation*. Strasbourg: Council of Europe. 14 June 2013 <http://www.coe.int/t/dg4/linguistic/Source/PlurinlingalEducation_EN.pdf>

Doiz, A., Lasagabaster, D. and Sierra, J.M. 2013. *English-Medium Instruction at Universities. Global Challenges*. Bristol: Multilingual Matters.

Fortanet-Gómez, I. 2013. *CLIL in Higher Education. Towards a Multilingual Language Policy*. Bristol: Multilingual Matters.

García, O. 2009. *Bilingual Education in the 21st Century: A Global Perspective*. Malden, MA: Wiley-Blackwell.

Lave, J. and Wenger, E. 1991. *Situated Learning: Legitimate Peripheral Participation*. Cambridge, MA: Cambridge University Press.

Received: 23 September 2013

CLIL in Higher Education. Towards a Multilingual Language Policy
Immaculada Fortanet-Gómez
Multilingual Matters: Bristol, 2013. 285 pages. ISBN-13: 978-1-84769-935-0

Reviewed by Simone Smala
s.smala@uq.edu.au
The University of Queensland, Brisbane, Australia

Immaculada Fortanet-Gómez's monograph *CLIL in Higher Education. Towards a Multilingual Language Policy* is an impressive contribution to the growing literature on CLIL. Setting her research in higher education, and specifically at the Universitat Jaume I in Castelló in the Valencian Community autonomous region in Spain, the author opens a discourse on the role of second, additional and foreign languages as the media of instruction for tertiary settings. In particular, she looks at the implementation of English and Valencian, a variety of Catalan, as media of instruction at the Universitat Jaume I. As a consequence, the book is an excellent resource and case study for academic researchers and university administrators seeking to understand the background of CLIL and multilingual education in tertiary settings.

Part 1 of Fortanet-Gómez's book focuses on aspects of multilingualism and multilingual education as part of societal and individual practices, taking into account how cultural identities and language planning shape the social status and geographical use of languages. The author reviews the existing literature extensively, and provides an overview of worldwide examples. One interesting concept referred to during this first part of the book is the M-Factor. A relatively new term coined by Herdina and Jessner (2002) to capture the specific characteristics of multilinguals, it is revisited here at different points in the book to continue a conversation about what is special about multilingual individuals and their metalinguistic awareness. While much of the multilingualism debate explores the political, societal and individual relationships to different local languages, English stands out in the book as a priority language based on its lingua franca status worldwide. Interestingly, the author analyses how English was for a long time a sign of elite multilingualism in Spain, and only in recent decades has been adopted as the major non-local language learnt in schools.

DOI: http://dx.doi.org/10.6035/LanguageV.2013.5.9

Fortanet-Gómez then introduces her chapter on multilingual education with the statement that "multilingual education develops in response to a conscious policy within the language planning of a society" (p. 22) to build or maintain societal multilingualism in a world characterised by global flows of people and ideas. She engages with different influencing factors for multilingual education, from the "ethnic revolution" (Fishman 1977, quoted here) to individual factors such as socio-economic background and academic ability, and questions of pedagogy and achievement outcomes (language, literacy, content).

An interesting contribution of this book is the continuation of a "mapping-out" of differences between different multilingual education approaches, in the spirit of the differentiation between CLIL and immersion as proposed by Lasagabaster and Sierra (2010). Fortanet-Gómez situates the beginnings of awareness of 'language' in education in the Language Across the Curriculum approach advocating the inclusion of *first language instruction* across all school subjects. The author then examines how English for Academic Purposes (EAP) is an example for *second language instruction* supporting content studies across the academic spectrum for students studying through the medium of English as a second or foreign language. A related concept, Content Based Instruction, was developed to help limited English proficiency students in American schools, whereas the immersion concept usually assumes that the second language is only used in the classroom.

CLIL is introduced as serving the European need to produce multilingual speakers who can communicate proficiently, rather than necessarily aiming for balanced bilingualism. The author goes into much detail to delineate the origins and approaches of CLIL and contributes to the debate by developing an argument of where and how CLIL can work in higher education.

In Part 2, the book then moves on to multilingualism in Higher Education. Her case study, the Universitat Jaume I, while specific in some aspects, is typical for many other higher education institutions set in multilingual contexts across Europe and beyond, often catering for a state language, a regional language and an international language. Fortanet-Gómez examines policy development in a multilingual socio-political context, taking into account linguistic imperialism, linguistic human rights, and language and

power. Her examples from European, Asian and South- African universities show the complexities of different language demands when CLIL is introduced into the tertiary setting.

The book also engages with the questions of what types of language, and language functions, CLIL in higher education needs to incorporate. The author investigates the roles of language as medium of instruction, as well as target of education, and considers the different discourses students and teachers are developing in tertiary CLIL classrooms, and as researchers faced with the overwhelming dominance of English. This is followed by a general overview of pedagogy in higher education, and how CLIL interacts with this context, for example by influencing if and how students engage verbally in lectures and seminars. Quoting Snow et al (1989), Fortanet-Gómez concludes, for language as a target of education, that "academic discourse is what is needed to participate in classroom activities, so the use of the target languages as media of instruction provides the motivation and opportunity for meaningful communication" (p.149).

Part 2 finishes with a look at the "Human Factor" , examining the background of contemporary students and lecturers in tertiary settings, and pointing out that universities have become a mass education system with highly diverse, including linguistically diverse, student populations. The author points out that while academics needs to consider different pedagogical approaches in higher education, in CLIL they are also always language teachers – just like primary or secondary teachers in CLIL programmes. Interestingly, the author also considers the role of administrative staff, alerting the reader to the reality that internationalisation efforts like CLIL involve the whole university.

In the third part of her book, Fortanet-Gómez introduces her own study of the Universitat Jaume I, which focuses on the new multilingual language policy at the university. The author sets out to investigate the conditions for this new policy, and includes profiles and interviews of university community members, as well as an analysis of the institutional context and other internal and external factors impacting on the implementation of the policy. In her study, she found that only about one third of the undergraduate students report being able to do highly demanding tasks in English, with

most of them having Spanish or Valencian as their first language. Chapters 7 and 8 of the book are, in general, dedicated to offering a detailed description of the language situation in Spain and how this influences local practices and attitudes at the Universitat Jaume I. In Chapter 9, the author then assesses her findings in the context of CLIL theories and the socio-political factors presented earlier, and proceeds to recommend policy steps and strategies to support the successful implementation of CLIL at the Universitat Jaume I.

The conclusion at the end of the book is, at least in parts, a summary and justification of the chapters. However, there are also some important conclusions drawn from the study. Among these is the observation that language skills in Valencian, largely used as a family language only, might actually increase if more attention were given to it through CLIL and immersion programmes. Related to this observation is her emphasis on the relevance of building an ethos of multilingualism that accepts the same status for all languages in use, particularly in times when economic difficulties might infringe on material costs and benefits. Furthermore, there is a strong statement in the author's conclusions that the development of cognitive academic language proficiency (CALP) in English needs more attention through dedicated preparatory courses, potentially for students, academics, and administrative staff alike.

At the end of the book, Fortanet-Gómez informs the reader that in her capacity as vice-rector of the Universitat Jaume I, she implemented a multilingual language plan for the university, parallel to writing the book. I can fully support her suggestion that the book will be inspiring "to those who are responsible for the design and implementation of multilingual language policies" (p. 246). Furthermore, as an academic and researcher, I found this book an exciting new contribution to the research field of CLIL, convincingly filling an epistemological gap, i.e. the use of CLIL in tertiary settings, and mapping and designating the areas this research focus can explore in the future.

REFERENCES

Fishman, J.A. 1977. "Language and ethinicity. In Giles, H. (Ed.) *Language, Ethnicity and Intergroup Relations*. London: Academic Press, 15-57.

Herdina, P. and Jessner, U. 2002. *A Dynamic Model of Multilingualism. Perspectives of Change in Psycholinguistics*. Clevedon: Multilingual Matters.

Lasagabaster, D. and Sierra, J.M. 2010. "Immersion and CLIL in English: more differences than similarities". *ELT Journal* 64 (4), 367-375.

Snow, M.A., Met, M. And Geneese, F. 1989. "A conceptual framework for the integration of language and content in second/foreign language instruction". *TESOL Quarterly* 23, 201-217.

Received: 30 October 2013

Language Value December 2013, Volume 5, Number 1 pp. 161-174
http://www.e-revistes.uji.es/languagevalue ISSN 1989-7103

MULTIMEDIA REVIEW

Managing the translation workflow with a Computer Assisted Translation Tool: SDL Trados 2011

<**http://www.sdl.com**>

Reviewed by Laura Ramírez Polo
Laura.Ramirez-Polo@uv.es
Universitat de Valencia, Spain

I. INTRODUCTION

Over the past 30 years, translators have been continuously incorporating the new advances in technology into their daily work. Nowadays, it is inconceivable that a professional does not use a computer with at least a word processor and some tool allowing terminology to be managed and looked up, be it some application on the Internet or a simple spreadsheet.

However, most translators need more specific tools to cope with their daily work. Indeed, the idea of the translator's workstation incorporating all the features needed by a professional translator has been present since the 1960s, when the ALPAC report published in 1966 (ALPAC, 1966), which analysed the state of the art on Machine Translation, recommended the development of tools intended to aid, not to substitute, the translator.

Since then, a number of attempts[1] have been made to define the ideal translator's workstation. With the quick expansion of desktop computers in the 1990s, the first commercial Computer-Assisted Translation (CAT) tools were born, such as *Trados Workbench* or *Transit*, and all of them have been incorporating these ideas until the present day, expanding their functionality as new needs arise.

[1] See Hutchins (1998: 293) for a review on the origins of the translator's workstation; Arthem (1978) explained the application of translation technology in the European Union; and Kay (1980/1997) wrote a seminal paper setting out the ideal design for a translator's workstation.

 DOI: http://dx.doi.org/10.6035/LanguageV.2013.5.10

The following review aims at analysing the next-to-last release[2] of one of the most widely used tools in the world of professional translation, *SDL Trados Studio 2011*, focusing on the particular needs of professional translators. In order to do so, we will review the main components of a CAT Tool and will discuss the advantages and disadvantages of implementing this type of technology in the translation workflow. Subsequently we will describe the translation process using *SDL Trados Studio 2011*, dividing it into three phases: before, during and after the translation. The last part of this review offers some alternatives to *SDL Trados Studio 2011*, as well as some ideas for its application in the translation classroom.

II. COMPONENTS OF A CAT TOOL

Rico Pérez (2002) adapted the categorisation of tools proposed by Melby (1998) in order to outline the automated translation workflow, dividing it into three main phases: before, during and after translation. In each of these phases, different tools and different components of each tool are used. The idea behind a CAT Tool is to offer an all-round product that comprises most of the tasks carried out during these three phases. Therefore, most CAT tools include a series of main components or features that aim to satisfy the needs of the professional translator throughout the whole process. These can be summarised as follows[3]:

- A Translation Memory System manages translation memories, that is, bilingual text files that contain segmented, aligned, parsed and classified texts (EAGLES, 1996). This component allows the creation, editing and deleting of translation units and whole translation memories. Besides, the system not only stores segmented texts, but also allows their retrieval when similar or identical texts need to be translated again.
- A Terminology Management System enables translators to create, edit and delete databases as well as concepts and terms within these databases. Edo (2011) carried out a review of different Terminology Management Systems integrated within CAT tools.

[2] The last versión of the software is SDL Trados 2014, which was released in July 2013.
[3] See Candel Mora and Ramírez Polo (in press) for a more detailed description of these components.

- An Alignment Tool segments and aligns two bilingual texts that have not been processed with a CAT tool in order to integrate them into a translation memory. This may be useful to reuse previously translated material or to make use of bilingual texts coming from a reliable source.
- Editor. Though there are different categories of CAT tools and some of them use an external editor such as MS Word, there is a growing trend to endow them with their own editor. This editor usually only supports an intermediate format, which can be either proprietary or standardised, such as XLIFF[4]. Therefore, documents in various formats that are to be translated in the editor must undergo a transformation process in order to be ready for translation. The editor interacts with the translation memory and the terminology database, offering added functionalities such as pretranslation, assembly of subsegments, auto-propagation, active terminology recognition or concordance search.

Apart from these main components, CAT tools also include different utilities for quality management, such as a spellchecker, and controls to verify the correct use of terminology or whether tags, numbers and formatting issues have been placed correctly. Other more advanced features are related to project management. Though these features can vary greatly from system to system depending on the version and sophistication of the system, most CAT tools include some kind of statistics count in order to calculate the number of words, segments and characters to be translated, which allows the professional translator to prepare budgets and invoices, as well as to establish a date for delivery.

III. ADVANTAGES AND DISADVANTAGES OF USING CAT TOOLS

The use of this type of technology brings advantages and disadvantages with it. Bowker (2002: 114-125) reviewed the benefits and drawbacks of working with a Translation Memory System, including time, quality, electronic form, file formats, filters and standards, character sets and language-related difficulties, attitudes, rates of pay, ownership, integration with other tools and economic aspects.

[4] XLIFF is an XML-based format created to standardise localisation. XLIFF was standardised by OASIS in 2002. Its current specification is v1.2, released on Feb. 1, 2008.

In summary, one of the main advantages of CAT tools claimed by the vendors is the ability to reuse previous translations, thus saving time, as well as to guarantee terminological consistency, given a well-built termbase. With regard to the drawbacks, some users might have difficulties in learning how to work with these tools due to their growing technical sophistication. Price can also be a hurdle, especially for novice translators and students that wish to get an insight into these applications.

Therefore, before acquiring and integrating this type of technology into the translation process, it is important to take into account a series of factors that might tip the balance in favour or against its acquisition. Ramírez Polo (2010) gives some advice on how to make a decision and summarises these factors as follows: the real need for such a tool, the direct or indirect obligation imposed by the customer or agency in order to be able to work, the price and how much the user is able to afford, the functionality of the tool, the formats that can be processed, the portability in different operating systems, the compatibility with other tools, the ease of use or usability, the community of users and social tools such as forums, blogs, Facebook groups, Twitter accounts, etc. that might be of help and finally the quality, availability and price of the customer service.

IV. SDL TRADOS STUDIO 2011

SDL Trados Studio 2011 is a software package designed for professional translation. The history of the program dates back to 1984, when Jochen Hummel and Iko Knyphausen initially set up Trados as a Language Service Provider (LSP). However, it was not until 1992 when the first version of Translator's Workbench, a simple software application intended to help translators, was first released (SDL, 2012). In the following years the original software underwent considerable changes and in 2005 the company was acquired by the multilanguage provider SDL. After a number of attempts to market both *Translator's Workbench* and the proprietary *SDLX* tool in a single software package or suite that still offered them as separate tools, in 2009 the company finally launched the first integrated version, which aimed to offer all the different functionalities in a single application with one consistent graphical user interface. *SDL Trados Studio 2011* is an improved version of this first attempt. However, the Terminology Management System *Multiterm* (including the terminology database

management system, a widget for desktop look-up and a utility to convert terminological data from other formats into *Multiterm* format) as well as the alignment component *WinAlign* and the recently acquired tool *Passolo* for the localisation of software are still single applications. Furthermore, they also offer a tool for terminology extraction that needs a separate licence. The price of *SDL Trados Studio 2011* ranges from 99 Euro for the Starter Edition to 2195 Euro for the Professional version.

V. TRANSLATION WORKFLOW WITH SDL TRADOS STUDIO 2011

In the following sections we will review the functionalities of *SDL Trados Studio 2011* as they are applied in the translation workflow. Upon program launch, a clean, functional interface (Home View) offers several view options (Editor, Translation Memory, Files, Reports), as well as a selection of the major tasks: open document, open package, new project, terminology management, align translated documents, etc. (Figure 1).

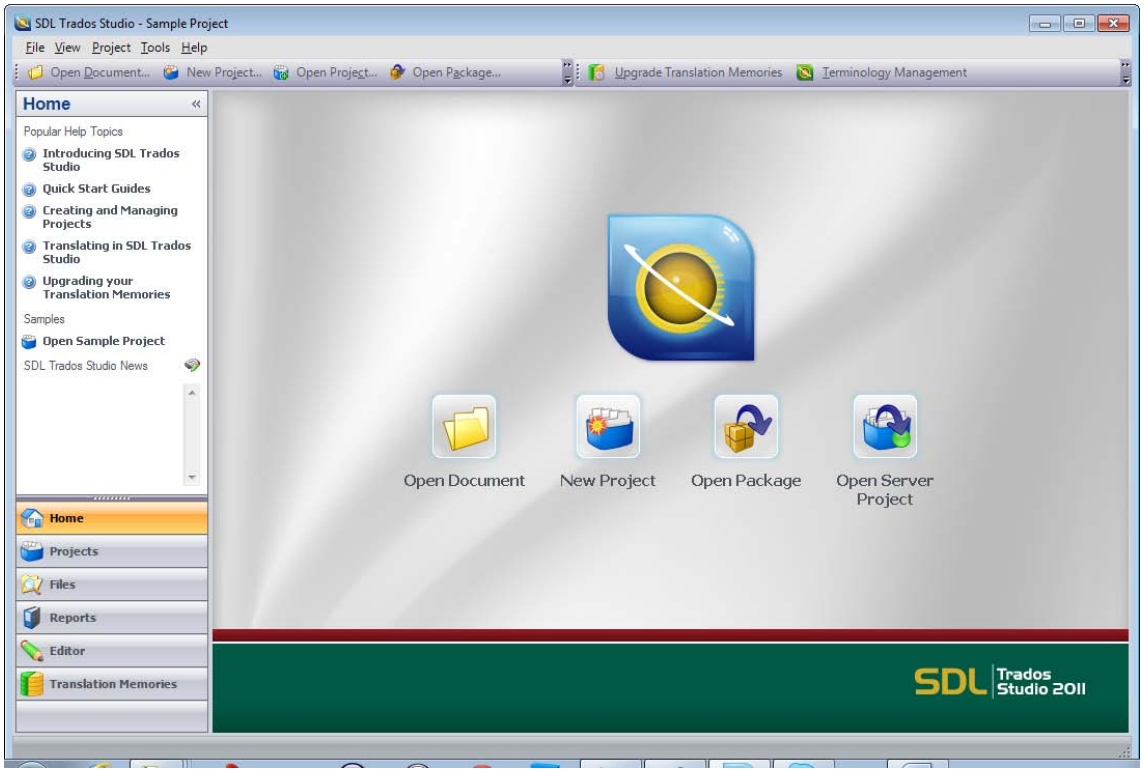

Figure 1. SDL Trados Studio 2011's start screen,
which allows access to the most important procedures in the central panel.

V. 1. First Stage: Before the Translation

In the first stage, there are three main possibilities:

- The translator wants to translate a single file into one target language.
- The translator wants to translate a number of files into one or various target languages and creates a translation project.
- The translator receives a package from the agency or the customer, that is, a compressed file containing all the necessary components for the translation: translation memory, terminology databases (if available), files to be translated and, if necessary, reference files (such as reference PDF files or pictures).

The first case is rather infrequent, since even if only one file needs to be translated, a project is usually created containing a translation memory and, if available or necessary, a terminology database, which needs to have been created previously with *Multiterm*. The translation memory is usually either provided by the client (agency, direct customer) or created ad-hoc for the project. Machine Translation technology can also be used in the project.

In the creation of the project an assistant helps the user in the following steps:

- Choose whether a project should be based on a template, a previous project, or should be created from scratch.
- Provide project details: Name and location in the computer. Optionally the user can add a description and indicate the date and time the work is due and assign the project to a customer.
- Choose the project languages. The user needs to choose the source language and the target languages.
- Select the project files, that is, the files that are going to be translated. Reference files that might be of help for the translator can be added too.
- Select a translation memory or a machine translation engine. If no translation memories are available, the user can create one ad-hoc within the application. The integration of several MT engines is one of the novelties of Studio 2009 and 2011.

- Add termbases. If the customer does not provide a termbase or there are none available, the user first needs to create one in a separate application, *Multiterm*.
- As a new feature, *SDL Trados Studio 2011* incorporates the possibility of adding previously translated files for each translatable document in the project. The software will then extract the translation units and transfer them to the editor. This new feature is called PerfectMatch.

Once the project has been set up (Figure 2), the next step is to carry out a custom task sequence. This sequence can be adapted if needed, but typically it comprises the following tasks:

- Convert to a translatable format: Content and format from the original file will be separated and the documents will be converted into an intermediary file format which can be processed in the tool editor. *SDL Trados Studio 2011* works with SDLXLIFF, a variant of XLIFF.
- Copy to target languages: Folders are created for each language pair and the intermediary files are copied in each of them. These files are bilingual, that is, they contain both the source and the target segments.
- Apply PerfectMatch: If bilingual files have been added, segments will be extracted and transferred to the file to be translated. These segments are then blocked in the editor, since they have already been reviewed and approved, without having to review them over and over again.
- Analyse files: A statistical account of the different files of the project is performed.
- Pre-translate files: Finally, the files are checked against the translation memory and, if there are any previous translations available, these will be introduced in the bilingual text and be visible when the file is opened in the editor.

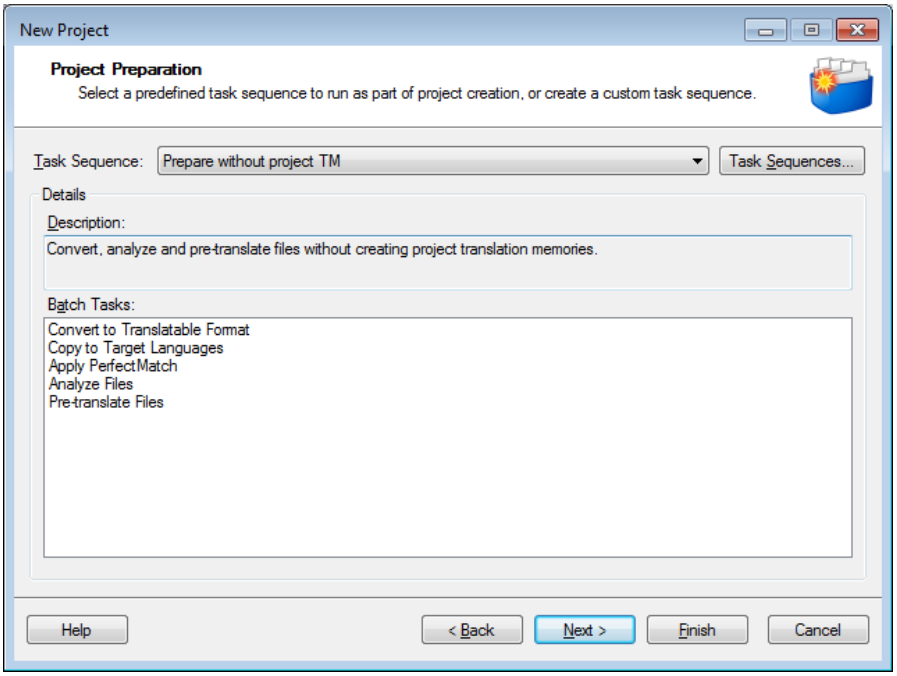

Figure 2. Project Setup.

Once the project has been prepared, first the translator checks the analysis and the pre-translation reports in order to determine how many words the files contain and, if there were any translation memories available, how many segments have already been translated. Subsequently she opens the files, one by one, that will be processed in the editor.

V. 2. Second Stage: During the Translation

In a second stage, the translator starts her work. The editor has a table layout, where the source text is presented on the left-hand side and the translation is introduced on the right-hand side, as can be observed in Figure 3. The user moves sequentially from one segment to the next, either with the mouse, with the direction arrows or with a shortcut that confirms the segment to save it in the translation memory. Once it has been stored, it can be retrieved later if there is a similar or identical segment in the source document.

At this stage, the translator can make use of a wide range of options that help her to optimise her work. Some of the most interesting options offered by *SDL Trados Studio 2011* are auto-propagation, active terminology recognition, concordance search, AutoSuggest, QuickPlace and real-time preview. In the following we will comment briefly on each of these features:

- Auto-propagation: Segments that are identical or only differ in placeables (numbers, dates, measures, etc.) can be propagated automatically throughout the target text.
- Active Terminology Recognition: Terminology in the source text that is stored in a termbase is recognised. The translator can introduce this terminology either with a mouse click, a shortcut or by starting to type it.
- Concordance Search: The translator can look up the translation memory for terms or expressions while she is translating.
- AutoSuggest: As we can see in Figure 4, the user starts typing and the software suggests a word based on the termbase or on an AutoSuggest dictionary. In order to confirm and to introduce the word in the target text, the user only needs to confirm by pressing Enter.
- QuickPlace: This utility simplifies how to deal with formatting, tags, numbers, dates and all of those items that might not require translation or only need to be adapted in terms of format (e.g. automatically substituting "." for "," in numbers when translating from English into Spanish).
- Real-time preview: The translator has only a limited view of the document she is translating, since it has been segmented and put in a tabular format. However, *SDL Trados Studio 2011* has a preview function that allows the user to see what the real final document will look like.

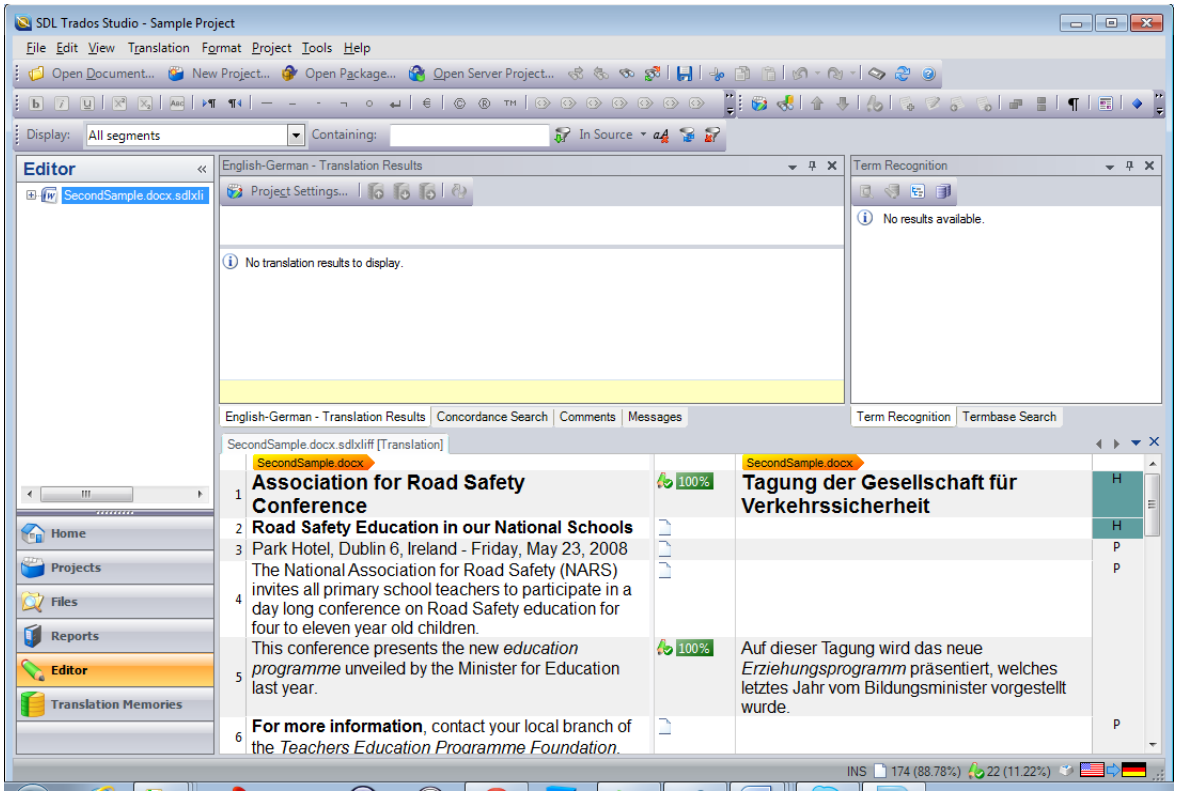

Figure 3. Editor Window in SDL Trados Studio 2011.

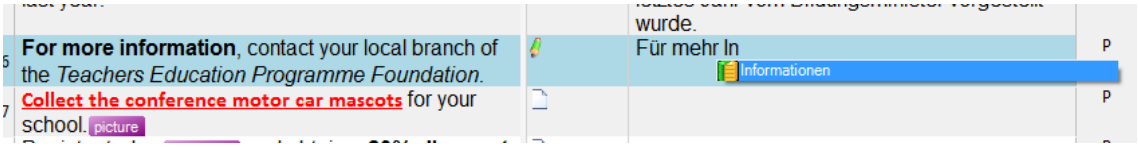

Figure 4. Example of the AutoSuggest technology.

V. 3. Third Stage: After the Translation

In a final stage, the user has the possibility of conducting a quality check that comprises both a spell check and the verification of different aspects, such as tags, segments (if all have been translated, if source and target segments are identical), inconsistencies, punctuation, numbers or terminology, checking for the possible non-use of target terms, for instance. The verification settings can be configured in the project settings.

Furthermore, the translator can create a package for the reviewer, including the files, the translation memory and the termbase. During review, the reviewer can use the new feature Track changes, which is very similar to the utility offered in MS Word. Insertions are marked in a different colour, together with the initials of the reviewer and the time, and deletions are crossed out, in a Word-like manner. In addition, comments

can be made. Once the text has been sent back to the translator, she can accept or reject the changes. If the reviewer does not have *SDL Trados Studio 2011*, there is also an interesting new feature that allows her to correct the document with the track changes utility in Word and re-import the corrected file back into *SDL Trados Studio 2011*. To do so, the translator needs to export the file for external review.

A final task that the translator might undertake once the translation has been reviewed is to update the main translation memories with the latest version of the target text, once it has been reviewed and approved.

VI. ALTERNATIVES TO SDL TRADOS STUDIO 2011

Even though *SDL Trados Studio 2011* is one of the most widely used tools on the market, there are a number of alternatives, including Déjà Vu, Transit, Wordfast, MemoQ and Across, to name just a few. However, it is difficult to establish a comparison among all of them, since there is a great deal of variation depending on the version and the type of licence. Peris (2010) offers a comparison with the strengths and weaknesses of some of the subscription-based low-cost versions of these CAT tools.

Another interesting alternative is OmegaT, a free software application which offers the basic functionalities of a CAT Tool: translation memory and dictionary management. This might be an alternative for novice translators or students who want to start using this type of technology in their processes. However, usually free software tools or low-cost versions of CAT Tools do not offer all the necessary functionalities and lack usability. Furthermore, though most tools currently support TMX and XLIFF formats, which are standards for the transfer of translation memories and localisation files among different systems, there are still inconsistencies in the application of these standards. Besides, most customers, especially translation agencies, "oblige" translators to use a certain software application, dismissing all other alternatives.

VII. APPLICATION IN THE CLASSROOM

Although *SDL Trados Studio 2011* is a tool intended for professional use, it is not uncommon to find practical applications of CAT tools in the classroom. Some of these

are depicted in Suau Jiménez and Ramírez Polo (2010) and Ramírez Polo and Ferrer Mora (2010).

Basically, this type of technology can be implemented in four types of courses:

- Translation technology courses, based on the training of instrumental skills. Here the CAT tool is the main player and students learn the technical aspects of its functioning.
- Translation courses, based on the training of translation skills. Students use the CAT tool as an instrument in order to practise translation in an environment close to the one they can expect to find in professional practice.
- Terminology courses, based on the training of terminological skills. As in translation courses, students use the Terminology Management module of a CAT tool as an instrument to practise terminology management in an environment close to the one they can expect to find in professional practice.
- Management courses, based on the training of management skills. Students learn to use the management utilities of a CAT tool to carry out a translation project and thus learn how to work in a professional way.

SDL Trados Studio 2011 offers all these possibilities and can constitute a very enriching complement in the training of future translators because of its applicability in professional practice. Furthermore, the company offers academic licences and has an academic programme for trainers, with materials and certifications for those who join it.

VIII. CONCLUSIONS

In this review, in general, we have dealt with the use of CAT Tools to manage the translation workflow and, more particularly, we have described how *SDL Trados Studio 2011* works.

In my opinion, the last release of this software package constitutes one of the most complete CAT tools available on the market and offers a wide range of functionalities that help the translator to optimise her work. Furthermore, including this type of technology in the classroom can bring students closer to real professional practice and offer them a competitive advantage against other future translators who have not been trained in the use of this software. It is important to note, however, that the acquisition

of such applications implies a considerable outlay and that a number of factors have to be considered before deciding to acquire a licence.

REFERENCES

ALPAC 1966. "Language and Machines — Computers in Translation and Linguistics" *A report by the Automatic Language Processing Advisory Committee, Division of Behavioral Sciences*. Washington, DC: National Academy of Sciences, National Research Council.

Arthern, P.J. 1978 "Machine translation and computerized terminology systems: a translator's viewpoint". In Snell, B.N. (Ed.) *Translating and the Computer: Proceedings of a Seminar*. London, UK: North-Holland Publishing Company, 77-108.

Bowker, L. 2002. *Computer-Aided Translation* Technology*: A Practical Introduction*. Ottawa: University of Ottawa Press.

Candel Mora, M.A. and Ramírez Polo, L. 2012. "Translation technology in institutional settings: a decision-making framework towards the implementation of computer-assisted translation systems". Paper presented at *International T3L Conference: Tradumatica, Translation Technologies & Localization*. Barcelona. 21- 22 June 2011.

EAGLES MT Evaluation Working Group 1996. *EAGLES Evaluation of Natural Language Processing Systems. Final Report. EAGLES Document EAG-EWG-PR.2*. Copenhagen, 271.

Edo Marzá, N. 2011. "Terminology Management Systems for the development of (specialised) dictionaries: A focus on WordSmith Tools and Termstar XV". *Language Value* 3, 162-173.

Hutchins, J. 1998. "The origins of the translator's workstation". *Machine Translation* 13 (4), 287-307.

Kay, M. 1980/1997. "The proper place of men and machines in language translation". *Machine Translation* 12 (1-2), 3-23.

Melby, A. 1998. "Eight types of translation technology". Paper presented at the *American Translators Association (ATA) 39th Annual Conference*. 10 September 2012 <http://www.ttt.org/technology/8types.pdf>

Peris, N. 2010. "Cheap translation tech: Who does what…and for how much?" 10 September 2012 <http://localizationlocalisation.wordpress.com/2010/08/24/cheap-translation-tech-who-does-what-and-for-how-much/>

Ramírez Polo, L. 2010: "¿Qué me pongo? 10 consejos para adquirir una herramienta TAO". 10 September 2012 <http://laurapo.blogs.uv.es/%C2%BFque-me-pongo-10-consejos-para-adquirir-una-herramienta-tao/>

Ramirez Polo, L. and Ferrer Mora, H. 2010. "Aplicación de las TIC en Traducción e Interpretación en la Universidad de Valencia: experiencias y reflexiones". *Redit* 4, 23–41.

Rico, C. 2002. "El perfil del traductor profesional. Desarrollo de competencias para una rápida incorporación a la industria". In *Simposi sobre l'Ensenyament a Distància i Semipresencial de la Tradumàtica*. Bellaterra, Catalunya, 1er, 8 pages. 10 September 2012 <http://ddd.uab.cat/pub/poncom/2002/64981/pertraproiSPA.pdf>

SDL. "The history of SDL. Celebrating innovation in the translation memory industry". 10 September 2012 < http://www.translationzone.com/en/about-us/history-of-sdl-trados/>

Suau Jiménez, F. and Ramírez Polo, L. 2010. "Las condiciones profesionales del traductor especializado: propuesta basada en las TIC". In García, M., P. Ribera, A. Costa, M.D. García, P. García, A. Iglesias, M. del Pozo and C. Rodríguez (Eds.) *Interacció Comunicativa i Ensenyament de Llengües*. Valencia: Universitat de València (PUV), 469-476.

Waβmer, T. 2011. "SDL Trados Studio 2011. Reviewed by Thomas Waβmer". *Multilingual* 22(8), 14-19.

Received: 12 September 2012