

# Promoting Dynamic CLIL Courses in Portuguese Higher Education: From design and training to implementation

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**Abstract:** This article demonstrates the method, procedures and results of a national research project aiming to implement Content and Language Integrated Learning (CLIL) courses in Portuguese higher education (HE). ReCLES.pt, the Network Association of Language Centres in HE in Portugal, carried out a review of the literature and an extensive needs analysis based on interviews with administrators and subject teachers to substantiate this need for CLIL in HE. The first 10-hour CLIL teacher training pilot courses, conceived of as Communities of Practice, involved learning to deal with approaches to teaching language and content by scaffolding and applying a terminology-based approach, all of which was systematized in a collaboratively written training guide. Data gathering instruments were created for observation, questioning and documenting, which served to analyse the results and assess the sustainability of the interrelated objectives of creating further CoPs so that more and better CLIL modules can be implemented across the country.

**Key words:** CLIL, Portuguese Higher Education, Communities of Practice, Terminology, Scaffolding

## Resumen:

Preparación para profesores, creada en Portugal, ha originado cursos CLIL en enseñanza superior. El curso en una Comunidad de Práctica ya ha sido testado por todo el país, basado en una larga investigación teórica aliada a un estudio nacional de las necesidades y un manual de capacitación escrito de forma colaborativa. La implementación de módulos de CLIL acentúa incluso *scaffolding* y terminología.

**Abstrakt:** Tento příspěvek představuje metodu, postupy a výsledky národního výzkumného projektu zaměřeného na zavádění kurzů CLIL do portugalského vyššího vzdělávání (VV). ReCLES.pt, Síťová asociace jazykových center VV v Portugalsku, provedla recenzi literatury a rozsáhlou analýzu potřeb založenou na rozhovorech s administrátory a oborovými učiteli, aby doložila nezbytnost CLIL ve vyšším vzdělávání. První desetihodinové pilotní lektorské kurzy CLIL, zahájené pod názvem Communities of Practice, zahrnovaly učení se postupům výuky jazyka a obsahu vytyčením a aplikováním terminologického přístupu, což bylo systematizováno ve společně vytvořené instruktážní příručce. Pilotní kurzy byly evaluovány a získané výsledky budou využity při zavádění dalších modulů CLIL v zemi.

## Introduction

The goals of increasing plurilingualism and internationalization, including enrolment by foreign students, are conditioned by heavy international competition for

ERASMUS+ foreign students, staff mobility programmes and research funds across Europe. The common response to these contemporary challenges in higher education has been English as an international language (Wilkinson & Walsh 2015: 10). By unifying multilingual course programmes and strengthening intercultural relations, English as a medium of instruction (EMI) is a common solution in the classroom and across Europe (Bowen, 2014; Margić, 2014; Guarda, 2014; Wilkinson, 2014).

Contrasting EMI with Content and Language Integrated Learning (CLIL), however, Morgado and Coelho (2011) found that EMI does not offer support for simultaneous language and content learning. Notably, in Portuguese polytechnic institutes there is less EMI (Morgado et al., 2013) as well as a total lack of experience with Content and Language Integrated Learning (CLIL) at any level of instruction (Morgado and Coelho, 2011). This combination has motivated ReCLES.pt member institutions that are interested in filling this gap with teachers whose efforts are sustained in a viable approach for learning both language and content.

The dual objective in HE in Portugal in the long term, then, is to teach subject specialist teachers how to apply CLIL, using scaffolding and a terminology-based approach, so that they, in turn, can successfully implement CLIL modules in their own classrooms. With guidance, this practice will eventually be extensive to the full semester, as teachers and students alike become accustomed to the approach and more aware of the benefits. These CLIL subjects aim to be more attractive at an international level and, simultaneously, provide opportunities for the Portuguese students to learn English as they learn the subject-specific material.

The common finding in recent research on successful CLIL in HE indicates that teachers must be trained in accordance with the social conditions proscribed by a specific HE context along with teaching strategies for subject-specific language (Dafouz et al., 2007; Chang, 2010; Airey, 2011; Jensen & Thøgersen, 2011). In any CLIL approach, however, the cultural challenge of learning remains since the construction of knowledge differs across languages (Wilkinson & Walsh, 2015: 10; cf. Boroditsky, 2011). Subject teachers need to acquire the specific culture of learning in English so that they can move beyond EMI, the mere translation of the subject teacher's regularly planned class. This culture of learning in a FL involves a broad range of organizational and communication practices related to research and its results as well as the specific terminology and the respective norms for contextualization and collocation.

In the phase of the ReCLES.pt CLIL national study to be discussed in this article, the aim was to determine, through questionnaires, learning logs and interviews, whether the creation of Communities of Practice could serve the purposes of learning how to apply CLIL approaches like scaffolding and how to use a terminology-based approach in a CLIL module taught by subject specialists.

## Methods

The initial needs analysis in this three-year study established quantitatively and qualitatively that CLIL should indeed be introduced into participating polytechnics. Further orientation of the design of the study came from the review of the literature and the construction of a bibliographic reference guide. National debates and workshops as well as compromises reached with the specific presidents and directors of the schools/faculties allowed the study to advance.

The six participating polytechnics formed communities of practice of between four and ten subject specialists (for a total of 29) with one to four language specialists (for total of 10) responsible for orienting the training periods. The pilot version of the 10-hour ReCLes.pt CLIL Teacher Training course, which took place in the first semester of 2014–2015, was generally divided into four or five sessions of two to two and a half hours.

The draft version of the *CLIL Training Guide: Creating a CLIL Community in Higher Education* (Morgado et al., 2015) provided the common practical support for developing the activity in the communities of practice. In addition to practical orientation, the materials of the training guide include instruments for assessing the study at every crucial turning point. A 28-question survey based on a six-point Likert scale designed by Arau Ribeiro (2015: 64–65, in Morgado et al., 2015) was completed both before and after the full training course for a comparative and quantitative assessment of the study. Interviews and qualitative learning logs, to be completed by subject specialists and language specialists, were completed after every specific session as tools applied to assess the feedback on the Communities of Practice.

Scaffolding materials were designed by each participating subject specialist for their specific CLIL modules, which took place after and even during the training course. The development of these materials, which took another 20 hours, was developed collaboratively with language specialists, who gauged difficulty and appropriateness of the digital and print activities to be implemented. Further tools created to assess activities implemented by the subject specialists included open-ended written assessment by the students and a teaching log to be completed by the subject specialist.

## Results and Discussion

Vital to the decision-making process of the governing bodies of the collaborating polytechnic schools/faculties was the preparation of the collaboratively written *CLIL Training Guide*, which included the materials and evaluation instruments for the pilot training course and subsequent CLIL modules. By facilitating the creation of CLIL modules and materials adapted to particular course areas and preferred

collaborative modes, the guide traces the philosophy, methods, skills, content-based approaches, genres, tools and implementation methodologies. In addition to sustaining the perceived need for CLIL in the participating polytechnics, the needs analysis had determined that the specific contexts, needs and expectations varied across campuses. As a result, although the communities of practice were established and taught with reference to the training guide, flexibility was not only accepted; it was encouraged.

The inevitable sense of shared responsibility of a social constructivist perspective like that of a community of practice considers not only the diverse subject areas but also their specific frames of reference and respective values. Learning the terminology, creating a symbiosis with CLIL pedagogy and accepting a FL as a mediator for content while providing appropriate support in the language itself takes time. All of the participants indicated that 10 hours was simply not enough time and that they were actively learning and contributing to their respective communities of practice.

The long-term benefits were described as optimal learning of social and academic discourse in terms of both language and content. Three Cs were commonly pointed out in the activities of contributing, comparing and contrasting together create an interaction-rich environment. Taken as a subset of the widely known set of four Cs (Coyle 1999; Coyle, Hood & Marsh, 2010), content, cognition, communication, culture, these aspects covered the defining requirements of learning a FL with the CLIL approach. Language users who were given clear opportunities to communicate effectively and interculturally while managing information related to content were asked, simultaneously, to use their cognitive skills to deal with that information.

Scaffolding (Vygotsky, 1934; Walqui, 2006), the visual construction metaphor that describes the temporary support from more competent colleagues and teachers, served to enhance the possibility for acquiring more advanced competencies. By building on their previous competencies and attitudes, scaffolding in this study, has been shown to foster creative and critical thinking, as suggested by Mehisto, Marsh and Frigols (2008).

The subject specialists noted that by highlighting the learning paradigm which focuses on the language learner as a *language user* (Cook, 2002; Morgado & Coelho, 2013; Arau Ribeiro, 2015a), they were less inclined to separate the subject from the linguistic paradigm in their CLIL modules. Focus on the learner as a language user was, however, a clear challenge since, despite the Bologna-instructed guidelines for learner-centred instruction, many subject teachers continue to lecture classes focused on content.

The 33 subject specialists carried out their CLIL modules in a number of areas, specifically Education (two modules), Business (fifteen), Food Science & Hospitality (four), Computer Science (four), Engineering (six) and other Humanities & Social Sciences (two). Eleven of these modules have been thoroughly analysed and students consistently pointed out that, through CLIL, they had been given more realistic opportunities to actually use the language to carry out meaningful tasks more frequently and to manipulate tools in the subject area for tangible objectives. Students noted new teacher behaviour and activities that involved, for example, repackaging information in terminology-based activities, restating classroom instruction in more accessible language and responding more constructively to their different learning styles. Having experienced the benefits of participating in a scaffolded learning environment during the training course, subject teachers readily identified the usefulness of a scaffolded learning environment for themselves and, subsequently, they tended to see the clear advantage of acquiring a variety of strategies to better deal with their own students.

Overall, students described feeling more confident about using English and valued this evidence of the acquisition of competencies in the subject. Some students had never worked with a financial statement in Accounting, for example, yet they successfully completed and presented this essential financial instrument at a simulated meeting in English at the end of the CLIL module. Others noted that seeing images of ecological settings in Environmental Engineering which represented the terminology to be learnt helped them make the visual-verbal connection that is so important in language learning, although it is often pushed aside, deemed too infantile for higher education. Computer Science students faced the task of designing a customised database for a fictitious English monolingual, embodied by the collaborating language specialist throughout the CLIL module; these students were pleasantly surprised to have spontaneously worked out misunderstandings with this difficult client and reported feeling more confident.

Incorporating and justifying the *Communities of Practice* (Wenger 1998) was a further innovation in the ReCLes.pt CLIL study. Commitment to uniting both language specialists and subject teachers in a community of practice is sustained in research specifically in the area of CLIL (Gajo, 2007, in Moore & Dooly, 2010: 76). Like these researchers (Moore & Dooly, 2010; cf. Moate, 2010), all participants also claimed that these local communities of practice provided the ideal conditions for shaping knowledge through the simultaneous negotiation of form and meaning. Teachers especially commented on an improvement in social relations and shared meaning-making with the students themselves, most notably after assessing their own CLIL modules (Arau Ribeiro, 2015b). Rather than a unidirectional teaching environment where the leader/teacher would simply give an activity for the language users/students to carry out, the shared space provided a platform

for discussing personal background, motivation and objectives and identifying the preferred means toward their achievement.

Along with communities of practice and scaffolding, a terminology-based approach – TerminoCLIL – was conceived and adopted. The previous experience of some of our researchers in terminological work was adapted for CLIL purposes and environments, focusing on the collection, description, processing and systematic representation of concepts and their designations within the specialized domain. In the CLIL learning environment, with strong linguistic and extra-linguistic inputs, terms stand out as one of the most important means for students to access and acquire knowledge and competencies. Through the use of that knowledge in a scaffolded process of three different but connected stages (Silva & Albuquerque 2014), the new knowledge is dealt with via strategies of retrieval/organization, application and visualization of knowledge and, subsequently, the progressive acquisition and management of terminology for CLIL.

To support teachers' activity and help accomplish the objectives of acquiring specialized knowledge, a Learning Activity Plan (LAP) based on the approach was also created. Thus, as an initiation to a specialty area, the use of concept maps, word clouds and glossaries was reported to have helped to link concepts and know-how to actual discourse. Both TerminoCLIL and the LAP consider Bloom's Taxonomy of Learning (Silva & Albuquerque, 2014; Bloom, 1956), with terminologically-oriented activities suggested for each level of learning, from Knowledge to Comprehension then Application and Analysis followed by Synthesis and Evaluation. Currently, both the theory and application are being adapted to Bloom's New Taxonomy of Learning based on results in this ReCLes.pt CLIL study.

The CLIL students, who were dealing with a new specific domain in a foreign language, were provided with a way to anchor this knowledge in the domain's terminology. Because TerminoCLIL can be adapted to any given specialized context, teachers particularly found that students were more readily prepared to learn the subject and specialized languages required in their respective areas. Given the dialogical relation of the subject-specific knowledge and language, the mutual benefits resulted first from better access to terminology. Then, managing and manipulating this specialized knowledge through TerminoCLIL activities, the student became notably more organized, structured and classified. Civil Engineering students, for example, who had access to a word cloud based on the European Standard for their area were equipped with the appropriate terminology to engage in conversation about the foundations of buildings. As a result, their discourse about this specialized knowledge was perceived as less ambiguous and more efficient.

Through the blending of strong linguistic and extra-linguistic inputs in the scaffolding activities, students indicated that they were learning to value specific ter-

minology as a means to access and acquire both knowledge and communicative competencies.

## Conclusion

ReCLES.pt is in the throes of establishing a well-respected and sought after training programme built upon strong theoretical foundations. By creating a Community of Practice for FL teachers and subject teachers who, due to limited human resources in a financially-restricted country, cannot always count on teaching in conjunction with a language teacher, these subject teachers have been prepared to teach courses with a CLIL-approach, highlighting scaffolding and terminology. The response of the students, the subject specialists and the language specialists has been overwhelmingly positive and the participating faculties have indicated their interest in implementing the training course on a regular basis to guarantee the ongoing teacher training in CLIL in higher education so that students will be able to learn more and more effectively.

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