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To cite this article: María Luisa Pérez Cañado (2016): Are teachers ready for CLIL? Evidence from a European study, European Journal of Teacher Education, DOI: 10.1080/02619768.2016.1138104

To link to this article: http://dx.doi.org/10.1080/02619768.2016.1138104

Published online: 25 Jan 2016.
Are teachers ready for CLIL? Evidence from a European study

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ABSTRACT
This article presents the outcomes of a European study on the main training needs which pre- and in-service teachers, teacher trainers, and coordinators consider they have in order to adapt to a bilingual education model. The macro-study has designed, validated and administered four sets of questionnaires to 706 informants across the whole of Europe, which have allowed a detailed diagnosis of language teachers’ training needs in terms of linguistic and intercultural competence, theoretical and methodological aspects based on the new options associated to Content and Language Integrated Learning (CLIL), teaching materials and resources, and ongoing professional development. After framing the topic against the backdrop of prior investigations, the article expounds on the research design of the study and outlines its main findings in relation to the afore-mentioned fields of interest. A detailed diagnosis of where we currently stand in this process of preparation for CLIL models in Europe is provided and within- and across-cohort comparison is carried out in terms of a series of intervening variables. The ultimate aim is to base decisions regarding language degrees and teacher training courses on empirically grounded guidelines in order to guarantee a success-prone implementation of CLIL in our continent, country and region.

Introduction
A new paradigm is emerging on the current language education scene, where polylanguaging, translanguaging,1 or plurilingualism surface as key concepts. They all point to the increasing need to be competent in more than one language for the purposes of communication (Madrid Fernández 2006) and to be capable of switching between them according to the circumstances at hand. Against this backdrop, Content and Language Integrated Learning (CLIL) has evolved as a proactive response to reinforce Europe’s levels of plurilingualism (Coyle, Hood, and Marsh 2010). CLIL is defined as a generic or umbrella term used to refer to ‘a dual-focussed education approach in which an additional language is used for the learning and teaching of both content and language’ (Marsh and Langé 2000, 2). The emphasis on both teaching and content points to the very hallmark of CLIL: it straddles these two aspects of learning, involving the fusion of previously fragmented elements of the curriculum and

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requiring teachers to forego their respective mindsets grounded on a single subject and to pool their skills and knowledge (Coyle, Hood, and Marsh 2010). It thus involves a ‘two for one’ approach (Lightbown & Spada, in Lyster 2007, 2), where subject matter teaching is used at least some of the time (a minimum of 20%, according to Järvinen 2006) as a means of increased meaningful exposure to the target language. Therein lies its distinctiveness and innovative and ground-breaking character (Coyle, Hood, and Marsh 2010). What separates it from other bilingual education (BE) initiatives is its ‘planned pedagogic integration of contextualised content, cognition, communication and culture into teaching and learning practice’ (Coyle, Hood, and Marsh 2010, 6).

CLIL is held to be modernising education and methodology (de Bot 2002; Coyle 2002, 2010; Marsh 2008) and breathing new life into experiential, student-centred methodologies like task-based approaches, while making language teaching more authentic (Lorenzo 2007). It is considered to be a potential catalyst for the diversification of methodologies (Marsh 2002; Gimeno Sanz 2009) and the supercession of the teacher-controlled banking model of education, giving way to a more social-constructivist, interactive and student-led learning where teachers pull back from being donors of knowledge to become facilitators.

This reconfiguration of teacher roles is an initial demand which CLIL places on the practitioner. Concomitantly, there are other potential barriers which they may encounter in CLIL implementation. A first of them is the relative novelty of the project: teachers who embark on this difficult enterprise can apply little of others’ navigational knowledge. A further issue which is highlighted as a possible pitfall is the increased workload which CLIL entails for instructors: it requires a great deal of initiative and effort on their part, as well as learning to collaborate and liaise with other content and/or language colleagues in order to guarantee integration. Instructors must be prepared to work collaboratively to achieve language and content integration and the teacher thus ceases to be ‘a lone rider’ (Marsh 2006, 32). A final oft-cited problem which needs to be circumvented is the qualification of teachers: their insufficient mastery of the target language has surfaced as a major concern, together with the lack of support they receive from educational authorities and the shortage of teacher training programmes. They must not only master the foreign or second language, but must also have expertise in the subject content and training in second language pedagogy. This requires intensive staff training in pedagogical and theoretical aspects of language acquisition, as numerous authors underscore (Rennie 1993; Richards and Rodgers 2001; Navés 2009; Muñoa Barredo 2011). It is thus not surprising that the shortage of CLIL teachers is documented in the official literature: the implementation of this approach is outpacing teacher education provision.

This is precisely the niche which the present investigation seeks to fill. Given the heightened importance of CLIL as a key contributory factor to European plurilingualism, and the dearth of teacher training actions to prepare practitioners to successfully step up to this novel approach, it becomes increasingly urgent to equip them for one the key challenges of the twenty-first century: plurilingual education. To this end, the study carries out a comprehensive analysis of the training needs which CLIL teachers across Europe currently have in facing up to BE, in terms of linguistic and intercultural competence, theoretical and methodological aspects of CLIL, materials and resources, and ongoing professional development. It has designed, validated and applied four sets of questionnaires, worked with a geographically comprehensive sample, and employed three types of triangulation.
The initial section of the article frames the topic against the backdrop of previous studies thus far conducted into teacher training for BE and which fully justify our research proposal. The investigation in itself will then be presented, outlining its objectives, research design, sample, variables, instruments, and statistical methodology. Its results will then be glossed and the main lacunae to be addressed in this area will be identified in order to prepare teachers to successfully step up to the bilingual challenge.

Prior research

There is a paucity of research into the analysis of teacher training needs across Europe, as the main strands around which CLIL investigations have been articulated, according to Wolff (2005), are the effects of CLIL on the acquisition of the FL, the L1 and content subject competence, and the evaluation of dual-focused education by teachers and students. Nonetheless, certain studies can be identified which have attempted to provide data on the main lacunae and needs which should be redressed via teacher training actions on our continent.

Only two studies which marginally focus on teacher training actions can be detected in European countries other than Spain. On the one hand, in Poland, Czura, Papaja, and Urbaniak (2009) report on the outcomes of a qualitative project coordinated by the National Center for Teacher Training and the British Council (known as the Profile Report), whose aim was to investigate bilingual scheme results throughout the country. It provides an overview of CLIL practice in 19 schools, using classroom observation and interviews with students and staff. The results indicate that teachers are involved, committed and eager, and see CLIL as a challenge and a source of professional satisfaction. Greater networking with schools abroad, increased teamwork, external support and teacher training are called for. Finally, the lack of curriculum and ICT availability and the poor access to materials in English are all documented.

And, on the other, in Italy, Infante, Benvenuto, and Lastrucci (2009) interview 11 experienced CLIL teachers through questionnaires and follow-up telephone conversations on their trajectory with dual-focused education. The overall results which emerge are once again positive, with CLIL impacting methodological innovation and level of reflection. In hindsight, the participating instructors regard their experience as extremely satisfactory, as, despite the notable number obstacles they have had to overcome, they believe in the effectiveness of this approach and consider it improves their teaching and allows them to view the subject in a different light. They acknowledge the increased workload it has involved and the lack of materials as two of the main hurdles they have had to face.

However, it is in Spain that the greatest number of investigations into the topic under scrutiny have been conducted. Indeed, our country particularly stands out within the European landscape, since, as Coyle (2010, viii) contends, ‘Spain is rapidly becoming one of the European leaders in CLIL practice and research.’ The Basque Autonomous Community is prominently positioned within the Spanish CLIL scenario, given its long and entrenched tradition in bilingual teaching and research. Here, Alonso, Grisaleña, and Campo (2008) consider stakeholder perspectives in CLIL implementation by using interviews, questionnaires and diaries. Their outcomes lend credence to the value and effectiveness of the CLIL experiences for students, families and teachers. Teachers acknowledge their increased workload, the complexity of CLIL instruction and the lack of didactic materials. They voice, however, their satisfaction with personal and institutional resources and their motivation with the task at hand.
Turning now to monolingual communities, the autonomous community of Madrid particularly stands out. Here, the CLIL project led by Ana Halbach at the University of Alcalá de Henares (UAH) is particularly enlightening for our purposes. It has investigated teachers’ beliefs and fears within the CAM (Comunidad Autónoma de Madrid) initiative using a qualitative methodology. Fernández Fernández et al. (2005) trace teachers’ perceptions regarding the implementation of bilingual programmes within the CAM Project. Four questionnaires and four semi-structured interviews were conducted in four different public schools to obtain insight into the way these participating teachers value BE in general and their bilingual project in particular, their opinion on their training and preparation for bilingual teaching, and their motivation towards the CAM Project. The vision which transpires is one of extremely motivated teachers with serious training deficits. The training received has enhanced their enthusiasm and motivation towards the Project, but they voice their need for further language training and methodological formation with BE experts. Three years later, Pena Díaz and Porto Requejo (2008) follow up this study with two further questionnaires. The first of them probed teachers’ opinion on BE and identified their main needs, while the second inquired into their opinion of the grassroots implementation of CLIL. The results are largely concurrent with those previously obtained. While the respondents perceive the experience as extremely positive and believe the CAM Project is working well, they feel insecure about their fluency and general English level (only 16% consider it is good enough to teach through this language) and about their specific knowledge of bilingual methodology (40% believe they have none). They also acknowledge their increased workload. From the second survey, it transpires that they are dedicated to and motivated by the Project, yet do not consider it a fully bilingual one, given the lack of extramural exposure to the language which students receive.

The specific training needs of English language teachers participating in the Madrid bilingual project are further charted in a more recent study conducted by Fernández and Halbach (2011). They investigate the views which practitioners with at least two years’ experience harbour of the implementation of this project. Fifteen schools were polled and 56 questionnaires were received with feedback on four main areas of interest: training needs, availability of resources, organisation of teaching and overall evaluation of the project. The chief training needs which transpire pertain to language skills (although the informants are rather complacent in the self-assessment of their current level in this area), teaching literacy in the FL, methodological aspects, ICT and the articulation of the holistic curriculum. In turn, resources appear to be patently insufficient, and additional (especially audiovisual and ICT) material, extra staff to help students with learning difficulties, more teachers to enable small group teaching and enhanced opportunities for training abroad are called for.

The enthusiasm and hard work of participating teachers once again shines through, although the danger of burn-out, according to the authors, also looms large and thus needs to be kept in check. Practitioners, they conclude by highlighting, need to receive appropriate linguistic and methodological training, to be given the opportunity to reflect on their teaching, and to be conferred time to respond to the requirements of the project, as the success of the latter ultimately relies on their commitment and motivation, even more than on the support of educational authorities in terms of training and guidance.

In the light of their results, these authors suggest incorporating specific CLIL training in pre-service teaching modules or Master’s, with a special focus on language and methodology. This is exactly what Halbach (2010) has done by setting up a CLIL track within the UAH’s
Teacher Training Master’s in order to address the previously diagnosed needs of teachers through specific subjects. Thus, this is a clear instance of how research outcomes have fruitfully fed into enhanced teaching practice.

A further interesting needs analysis has been carried out in Castilla y León (Martín del Pozo 2011). Here, 12 content teachers at tertiary level were polled across such diverse disciplines as Economics, Mathematics or Physics at the University of Valladolid via informal questionnaires and interviews. The results were interpreted in the light of the language trinity approach Coyle and Baetens Beardsmore (2007), revealing that, in order to function in an academic environment, these subject area instructors needed interpersonal social language, awareness of cognitive academic language, and greater work on pronunciation and improvisation.

Alongside Madrid, Andalusia is particularly conspicuous in the research panorama on teacher training needs. The interest and changes generated by the APPP (Andalusian Plan for the Promotion of Plurilingualism) have spawned a remarkably broad array of publications on CLIL in the Andalusian community. Two investigations are crucial for the topic under study here, as they constitute qualitative instances of needs and SWOT analyses. Rubio Mostacero (2009) carried out needs analysis interviews with 20 teachers in 4 Secondary schools in the province of Jaén in June 2005, with a view to designing a training course for non-linguistic area (NLA) teachers on the basis of her outcomes. She initially drafted a course model based on her prior experience and subsequently revised it in two successive phases: after conducting the needs analysis and after subjecting it to the critical scrutiny of the interviewees and the local teacher training centre.

The results she obtained revealed a much lower level of English language proficiency among the instructors than she had initially predicted and a generalised lack of information and knowledge about CLIL. When questioned about potential problems which the Junta de Andalucía might have when implementing the APPP, the informants mentioned reluctance and opposition on the part of the stakeholders, economic problems, difficulties stemming from a rough-and-ready realisation of the Plan, and lack of rewards, resources and effective training. The general outlook on the APPP was, however, optimistic, as teachers saw it as a personal and professional challenge. Finally, when asked about their training needs, the respondents unanimously voiced the urgency of language training, with methodology being mentioned only by those who were confident in using the language. The author’s conclusion in this sense is particularly eloquent (Rubio Mostacero 2009, 58): ‘[…] language is the basic need to teach through CLIL, and only when this need is covered, others may emerge’. Additional materials and ICT resources are also mentioned, along with the desire to receive extended courses with over 100 hours of instruction.

Rubio Mostacero’s endeavour is particularly valuable due to its early concern for APPP preparation: it is not surprising that the informants were scarcely familiar with the Plan since it had just been launched. This circumstance is perhaps also responsible for the author’s lack of grounding on previous analyses and research outcomes: her proposal is largely intuitive possibly as a result of its early stages of development. The results, however, would have been more pertinent if the interviewees had actually been involved with the implementation of the APPP. It also would have benefited from both methodological (only focused interviews are employed) and data triangulation (student and parent opinions are investigated via the teachers, instead of interviewing these other stakeholders directly). Finally, the sample is very reduced both numerically and geographically.
This last deficiency is overcome by Cabezas Cabello’s (2010) more recent research. During a 6-month leave of absence (January to June, 2009) granted by the educational authorities, this author interviewed over 100 teachers and 30 coordinators in 30 Primary and Secondary schools implementing English, French and German bilingual sections in the APPP in all 8 Andalusian provinces. His aim is to carry out a SWOT analysis of APPP implementation and to contrast top–down and bottom–up approaches to the Plan:

We explore whether there are contradictions and discrepancies between educational policy and what is actually happening in schools, mindful that an ambitious and wide-reaching programme such as the APPP may have created expectations that do not correspond with everyday reality. (Cabezas Cabello 2010, 84)

As strengths, he documents greater cognitive, cultural, social, affective and intellectual benefits for students, whose motivation and opportunities to travel and experience multicultural contact also increase; enhanced coordination, communication, recycling, enthusiasm and stability for the teaching staff; more availability of ICT resources; and a more communicative, oral and integrated methodology.

The weaknesses, in turn, affect teachers, students, parents, organisational aspects and materials. The main hurdle being faced by teachers pertains to training: NLA teachers lack linguistic and methodological grounding, something especially detrimental since the author considers they are the backbone of the APPP (2010, 84).

The opportunities which the author identifies on the basis of his research involve homogenising the APPP across schools and assimilating language learning as much as possible to real bilingual environments; training teachers (especially NLAs) linguistically and methodologically; involving students and families actively and facilitating as much extramural exposure to the language as possible (e.g. by not dubbing films); increasing information about CLIL for all stakeholders; and carrying out a real external assessment of APPP schools.

Finally, the main threats which come to the fore have to do with the excessive teacher–student ratio, with restoring the L2 teacher to his/her rightful place, without undermining his/her contribution, and most prominently, with keeping overly positive accounts of the APPP implementation in check. Cabezas Cabello concludes by making an urgent call for unbiased research and by stating that the APPP document, as it stands, is simply not feasible: ‘[…] in the present circumstances of most Andalusian schools, it is neither viable nor doable’ (2010, 90).

Despite the attested shortcomings of the prior investigation by Cabezas Cabello (2010) – lack of data and methodological triangulation, no theoretical grounding of the interview content, unclear account of research design, sample, instruments and procedure – it deserves attention if only for being the first endeavour to orchestrate a balance between the grassroots and top–down implementation of the APPP and to trace its inconsistencies.

**Justification**

This literature review has allowed us to ascertain that there is a well-documented paucity of research into the needs of teacher training for CLIL, a first reason which clearly warrants and justifies the present research project proposal. Indeed, the single most widely consensual affirmation with respect to CLIL at European, Spanish and Andalusian level is the need for further research: ‘What is certain is that despite the recent surge in evaluative reports, there is much, much more still to investigate’ (Coyle, Hood, and Marsh 2010, 149). This is largely incumbent on universities:
It is the responsibility of universities and not only of public administrations, to carry out conclusive research to check whether the adopted pedagogical options produce the desired results, and to understand the reasons why such results are obtained or not. (Escobar Urmenetia and Sánchez Sola 2009, 80)

Research into teacher training needs is especially necessary, as the key to any future vision for BE is held to rely in teacher education (Coyle 2011; Gisbert 2011). As Coyle (2011) puts it, ‘it is where we will stand or fall in terms of sustainability’.

It is also particularly relevant at this precise moment, as it appears that we are currently at a crucial crossroads: if CLIL initiatives are expected to come to fruition in 20 years (Hughes 2010) and have now been running for approximately a decade in our continent, it is timely to engage in research into how they are playing out. Thus, we must undertake much-needed stocktaking, as practitioners themselves are asking for results to help defuse fears (de Graaff et al. 2007) and reinforce the connection between the academic world and classroom praxis (Infante, Benvenuto, and Lastrucci 2009). We otherwise run the risk of jeopardising the effectiveness of CLIL or dissipating some of its promise.

A further reason which justifies our project proposal is the fact that what research has been conducted presents certain shortcomings which our study seeks to overcome. Prior investigations have worked with numerically and geographically reduced samples, have not worked in data triangulation, have not grounded instrument design on recent research outcomes in the CLIL arena and have not validated the instruments employed or guaranteed their validity and reliability.

An independent large-scale study into the needs of all stakeholders involved in CLIL programmes is thus fully justified in our context if only for the sake of replication purposes in more updated circumstances. A European macro-investigation is here proposed, which employs a mixed-method approach, bases instruments design and validation on the latest CLIL research, factors in and controls for identification variables, provides three types of triangulation, and works with a large and geographically comprehensive cohort.

The ultimate aim is to contribute empirically sound data to continue pushing CLIL implementation forward, given the potential which this type of programme is held to have for European education (Lorenzo 2010). If we are prepared to march under the banners of CLIL, it is incumbent upon us to base our decisions on objective empirical data into its functioning and to ensure a sufficient evidence base to make secure judgements.

Objectives

The broad objective of this investigation is to conduct a large-scale multifaceted CLIL evaluation project into the main training needs which teachers currently have across Europe in order to successfully implement BE programmes. Three key metaconcerns drive the study and serve as cornerstones for this project. They are presented and broken down into component corollaries below:

**Metaconcern 1 (Needs analysis)**

(1) To determine which are the main training needs of language teachers in Europe as regards linguistic and intercultural competence.
(2) To determine which are the main training needs of language teachers in Europe vis-à-vis the theoretical underpinnings of CLIL.
(3) To determine which are the main training needs of language teachers in Europe with respect to methodological aspects.
(4) To determine which are the main training needs of language teachers in Europe concerning materials and resources (with special emphasis on ICT).
(5) To determine which are the main training needs of language teachers in Europe regarding ongoing professional development.

**Metaconcern 2 (Across-cohort comparison)**

(6) To determine if there are statistically significant differences in terms of training needs among the four cohorts: teacher trainers, in-service teachers, pre-service teachers and bilingual coordinators.

**Metaconcern 3 (Within-cohort comparison)**

(7) To determine if there are statistically significant differences in terms of training needs within the cohort of teacher trainers vis-à-vis age, gender, nationality, university, degree and teaching experience.
(8) To determine if there are statistically significant differences in terms of training needs within the cohort of in-service teachers vis-à-vis age, gender, nationality, type of teacher, administrative situation, type of school, setting, level and teaching experience.
(9) To determine if there are statistically significant differences in terms of training needs within the cohort of pre-service teachers vis-à-vis age, gender, nationality, university and language level.
(10) To determine if there are statistically significant differences in terms of training needs within the cohort of bilingual coordinators vis-à-vis age, gender, nationality and experience.

**Research design**

The present investigation is an instance of primary research, and within it, of survey research, as it includes questionnaires (Brown 2001). Three are the characteristics which this author ascribes to survey research: it is data-based, employs interviews and questionnaires, and is mid-way between qualitative and statistical research, as it can make use of both these techniques. Within it, what Denzin (1970) terms *multiple triangulation* has been employed, specifically of the following three types:

- **Data triangulation**, as multiple sources of information have been consulted to mediate biases interjected by people with different roles in the language teaching context: pre-service teachers, teacher trainers, coordinators and in-service teachers (and within the latter, NLA teachers, English language teachers and teaching assistants).
• **Investigator triangulation**, due to the fact that different researchers have analysed the open-response items on the questionnaire and interviews, written up their conclusions and collated their findings.

• **Location triangulation**, given that language learning data has been collected from multiple data-gathering sites: Primary Schools, Secondary Schools, universities and the provincial educational administration.

### Sample/Participants

The project has worked with an ample cohort of students, teachers, teacher trainers and coordinators across the whole of Europe. The study has had a significant return rate, as the surveys have been completed by a total of 706 informants. Roughly equal amounts of pre- and in-service teachers have participated (260 and 241, respectively), with the third most representative cohort being that of teacher trainers (197 in all). Only eight educational administration coordinators have responded (cf. Graph 1).

They are primarily of Spanish nationality, albeit with a considerable percentage also belonging to European countries (cf. Graph 2), which have been classified into Northern, Southern, Central and Eastern Europe and which include countries such as Germany, Denmark, Finland, Italy, Greece, Malta, France, England, Poland, Switzerland, Spain and Portugal. It is curious to note that, although our study was originally intended to diagnose teacher training needs across Europe, a considerable number of respondents from North and South America and other continents (Africa, Asia, Australia) has also answered our surveys, thereby allowing us to enrich our results by analysing and comparing bilingual teachers’ needs in a broader ambit than was initially envisaged. Nonetheless, given the majority of Spanish respondents in the sample, the results presented here are especially representative of the situation in this country.

Finally, in terms of gender, women (70.9%) clearly outnumber their male counterparts (29.1%) (cf. Graph 3).

![Graph 1](image-url). Breakdown of the overall sample in terms of cohort.
Variables

A series of identification (subject) variables have been contemplated, related to the individual characteristics of the four different stakeholders who have been polled through the questionnaire. The identification variables for each cohort are specified below:

**In-service teachers**

- Age
- Gender
- Nationality
- Country
- Type of teacher (NLA, FL, TA)
• Administrative situation (civil servant with permanent destination, civil servant with provisional destination, semi-private school teacher, private school teacher, intern)
• Type of school (public–private–semi-private)
• Setting (urban–rural)
• Level (Infant–Primary–Secondary–Baccalaureate–vocational training)
• Language taught
• Previous work/study in country where foreign language taught is spoken
• Overall teaching experience
• Teaching experience in a bilingual school
• Foreign language level

**Pre-service teachers**

• Age
• Gender
• Nationality
• University
• Degree
• Grade
• Foreign language
• Foreign language level

**Teacher trainers**

• Age
• Gender
• Nationality
• University
• Degree
• Foreign language taught
• Level at which the foreign language is taught
• Overall teaching experience

**Coordinators**

• Age
• Gender
• Nationality
• Country
• Type of coordinator
• Province
• Experience
Instruments

The study has employed questionnaires (self-administered and group-administered), which Brown (2001) subsumes within survey tools, to carry out the targeted needs analysis. Four sets of questionnaires (one for each of the cohorts) have been designed and validated in both Spanish and English. They include, in line with Patton's (1987) question types, demographic or background questions to elicit biographical information from the respondents (which correspond to the identification variables of the study – cf. previous section) and opinion or value questions, to determine the outlook on their current level and training needs on a total of 52 items related to BE programmes in which they are/will be partaking. The former type of questions are fill-in and short-answer ones (following Brown's 2001 typology) and the latter, alternative answer and Likert-scale ones (from 1 to 4, in order to avoid the central tendency error). Thus, closed-response items predominate, for ease and speed of applicability, although some open-response questions have also been included at the end of each questionnaire for the cohort to elaborate on those aspects they deem necessary. This combination has allowed us to obtain general information in an objective and uniform way, and related follow-up details simultaneously.

All four versions of the surveys cover exactly the same contents (pertaining to all the curricular and organisational aspects of CLIL programmes) to allow comparability across stakeholders. The identification variables or biodata elicited from the participants are attuned to each of the cohorts. The contents of the questionnaires are informed by the outcomes of the main qualitative SWOT and needs analyses carried out until present in similar contexts (Marsh 2002; Fernández Fernández et al. 2005; Pena Díaz and Porto Requejo 2008; García Jiménez and Cobo López 2009; Infante, Benvenuto, and Lastrucci 2009; Lorenzo, Casal, and Moore 2009; Navés 2009; Rubio Mostacero 2009; Ruiz-Garrido and Fortanet-Gómez 2009; San Isidro 2009; Alejo and Piquer Périz 2010; Cabezas Cabello 2010; Fortanet-Gómez 2010; Salaberri Ramiro 2010) and are thus based on research evidence on the main lacunae which have been identified in teacher training for CLIL. These pertain to the five main fronts comprised in the surveys: linguistic and intercultural competence (13 items), theoretical underpinnings (8 items), methodological aspects (9 items), materials and resources (11 items), and ongoing professional development (11 items). Each of them is thus grounded on recent research findings.

Data analysis: statistical methodology

The data obtained has been analysed statistically, using the SPSS programme in its 19.0 version. Descriptive statistics have been used to report on the results obtained for Metaconcern 2 (objectives 1–5). Both central tendency (mean, median and mode) and dispersion measures (range, low-high, standard deviation) have been calculated. In turn, for Metaconcerns 2 and 3 (objectives 6–10), the ANOVA, t test and Mann–Whitney U test have been employed to determine the existence of statistically significant differences between groups and within groups, in terms of the moderating and identification variables considered.

Results and discussion

In line with our first metaconcern (objectives 1–5), our investigation has enabled us to carry out a detailed diagnosis of the current level and training needs which the key CLIL
stakeholders have in terms of linguistic and intercultural competence (block I), the theoretical underpinnings of CLIL (block II), methodological aspects (block III), materials and resources (block IV) and ongoing professional development (block V).

The overriding impression is that current level is higher on linguistic and intercultural competence (something which fully concurs with Fernández and Halbach’s 2011 recent findings and which is not surprising if we consider that the majority of respondents in the in- and pre-service teacher cohorts have been English language teachers and students with a B2 to C1 level) and insufficient or non-existent for the theoretical underpinnings of CLIL and ongoing professional development. More mixed results are obtained for methodological aspects and materials and resources, where roughly equal percentages of respondents claim to have an adequate and insufficient level (cf. Graph 4).

Interestingly, however, training needs are deemed considerable across all five thematic blocks, to a lesser extent on linguistic and intercultural competence and to a much greater one on theoretical underpinnings and ongoing professional development (vs. Pena Díaz and Porto Requejo’s 2008 and Rubio Mostacero’s 2009 findings, where linguistic aspects were the prime area in need of further training), thereby confirming the overall consistency of results between current level and training needs. They are also from considerable to high on methodology and materials, which points to the generalised training needs of all the key players in CLIL settings (cf. Graph 5).

These outcomes can be qualified by cohort, as informants cannot be seen as a homogeneous group in the light of our findings. Pre-service teachers appear to be the stakeholders with

Graph 4. Current level of respondents by thematic blocks.

Graph 5. Training needs of respondents by thematic blocks.
the lowest current level (save on linguistic and intercultural competence) and the highest training needs (something which has been confirmed statistically by the ANOVA and t test in Objective 6). They are especially marked for blocks II and V, but methodological training and familiarity with materials design, collaborative teaching and ICT options also need to be prioritised. This is fully congruent with the outcomes of both European (Czura, Papaja, and Urbaniak 2009; Infante, Benvenuto, and Lastrucci 2009) and Spanish studies (Fernández Fernández et al. 2005; Alonso, Grisaleña, and Campo 2008; Cabezas Cabello 2010; Fernández and Halbach 2011), where lack of ICT availability, poor access to materials and insufficient methodological training were all documented.

Very similar tendencies can be detected for teacher trainers, who, alongside their graduate and undergraduate students, harbour a more negative outlook on current level (even linguistic and intercultural competence is considered deficient) and training needs (again, with particular emphasis on theoretical aspects and ongoing professional development).

In turn, a greater harmony transpires between in-service practitioners and provincial coordinators, both of whom are more complacent in the assessment of current level and training needs. For both these groups of respondents, current level is only insufficient on blocks II and V, being considered overwhelmingly adequate on linguistic and intercultural competence and between adequate and insufficient on methodology and materials (coordinators have a more positive outlook on the latter). Training needs are, however, considerable across the board – albeit more markedly so on theoretical aspects and ongoing professional development – except for linguistic and intercultural competence (and materials and resources for coordinators), where they are majoritarily perceived as low.

These differences across cohorts are empirically substantiated by the ANOVA and t test, in line with Metaconcern 2 (Objective 6). There are, to begin with, statistically significant differences (at extremely high confidence levels) across groups on absolutely all questionnaire items for training needs, and on 47 out of 52 for current level. On the latter, there is a greater congruence of responses between teacher trainers and pre-service teachers and between in-service practitioners and coordinators. However, there are numerous statistically significant differences between in-service teachers and teacher trainers/pre-service teachers, always in favour of in-service teachers, who thus hold a significantly more positive view of where we currently stand in teacher education for CLIL.

In line with the foregoing, on training needs, it is pre-service teachers and teacher trainers who obtain significantly higher means, thereby confirming their view of the need for enhanced teacher training across the board. This is especially the case for linguistic and intercultural competence, methodological aspects, and materials methodology, where there is a greater harmony of responses between pre-service teachers and teacher trainers. However, on theoretical aspects and ongoing professional development, increased differences between these cohorts emerge, as well as between students and coordinators, always in favour of pre-service teachers, who seem to be the group which calls for the greatest training. Differences between in-service teachers and coordinators continue to be practically non-existent on training needs. Thus, it would be beneficial, according to our outcomes, to realign the perceptions of practising professionals and those in charge of or undergoing teacher training.

If statistically significant differences are considered within each cohort in terms of our identification variables (Metaconcern 3 – Objectives 7 through 10), equally interesting findings
emerge. To begin with, differences diminish from in-service practitioners to pre-service teachers to teacher trainers to coordinators.

The cohort which presents the greatest variability is thus that of in-service teachers, something which is not surprising considering that different types of practitioners have, in turn, been comprised within this group (language teachers, NLA teachers and Teaching Assistants). Differences can be detected in terms of nationality (where European teachers appear to be the best equipped for the CLIL challenge, although Spanish practitioners are, on the upside, fully cognisant of their limitations and call for increased training on linguistic competence, materials and resources, and ongoing professional development), type of teacher (where NLA teachers appear to have the greatest gaps, particularly in terms of linguistic and intercultural competence and materials and resources), teaching level (where Infant and Primary school practitioners present the lowest levels and highest training needs precisely on the same blocks as NLA teachers), previous experience abroad (which significantly impacts level and training needs on linguistic aspects, materials, and ongoing professional development) and language level (which has a direct bearing on the mastery of linguistic and intercultural items, on theoretical aspects, and on materials and resources). Interestingly, it is teachers with a B1 level who have the greatest training needs on the linguistic front, perhaps owing to their desire to attain the B2 level which is required to partake in Andalusian CLIL schemes.

A greater homogeneity can be discerned for pre-service teachers despite being a more numerous cohort. Statistically significant differences can be detected here, especially on linguistic and intercultural aspects and on methodology and materials, and only for four variables. In terms of age, the oldest students appear to have the highest level and lowest training needs. Vis-à-vis grade, third-cycle students also appear to have fewer training needs on and greater mastery of linguistic and methodological aspects. Regarding nationality, European students are clearly superior to Spanish and Latin American ones on the theoretical underpinnings of CLIL and ongoing professional development. Finally, Eastern and Central European universities present the significantly highest levels, and Spanish and Southern European ones, the greatest training needs. Learning from the good practices of other European countries in terms of the way in which pre- and in-service training for CLIL is envisaged and set up there would thus be beneficial, in terms of our outcomes.

Increasingly, fewer differences emerge for teacher trainers, which can only be detected for two variables: degree and language taught. There is a great congruence between them, as Teacher Training and German and other philologies have the lowest level and the highest training needs across all five thematic blocks, as do students of German and French, although English ones also require considerable training, according to their instructors. These findings point to the desirability of building in a specific branch for these languages within CLIL Masters and of targeting Infant and Primary School teachers as key cohorts.

Finally, differences within coordinators are unsubstantial. They only surface in terms of age, with younger coordinators harbouring a more cautious outlook on current level, especially as regards linguistic aspects and authentic materials.4

**Conclusion**

The present article has centred on two burning issues in the current language education landscape: CLIL and teacher training. The former has recently surfaced as a timely solution in harmony with Europe’s desire to reinforce its levels of multilingualism. The latter, in turn,
needs to be escalated in order to successfully step up to the plurilingual challenge. In order to determine exactly on which fronts teacher education needs to be provided, a European macro-study has been conducted to canvass the current level and training needs of four different cohorts of CLIL stakeholders, to compare such needs across the cohorts, and to qualify them in terms of a series of intervening variables within each group of participants. The end result has been a fine-grained portrayal of the main areas in need of increased teacher education within CLIL programmes, which evinces that substantial strides still need to be taken (especially in certain areas and for certain types of practitioners) for teachers to be fully ready for the CLIL challenge. If CLIL is to fulfil its promise as a ‘welcome innovation’ and a ‘major step forward’ (Tobin and Abello-Contesse 2013, 224), committed, motivated and, especially, well-prepared teachers are required (Fernández and Halbach 2011; Gisbert 2011). This article seeks to make a contribution to such teacher education. As Kumaravadivelu (2001, 555) has put it, ‘in any educational reform, teachers and teacher educators constitute pivotal change agents’. It is incumbent upon us to equip CLIL teachers to bear the challenge of that change, particularly considering that CLIL may well become the lynchpin to tackle the current language deficit in our continent.

Notes

1. Terms such as polylinguaging or translanguaging represent, according to Orman (2013, 90) ‘attempts to transcend traditional approaches which describe such language practices in terms of a pluralisation of the monolingual norm or ideal which has tended to underpin mainstream linguistic theorising, i.e. in terms of bi- or multilingualism’. Polylinguaging is defined by Møller and Jørgensen (2012, 1, in Orman 2013, 92) as ‘the phenomenon that speakers employ linguistic resources at their disposal which are associated with different “languages”, including the cases in which the speakers know only few features associated with a given “language”. In turn, translanguaging is, according to Garcia (2009, 140), ‘the act performed by bilinguals of accessing different linguistic features or various modes of what are described as autonomous languages, in order to maximise communicative potential’.

2. NLA teachers is the term used in this article to refer to subject and content teachers who implement specific subjects/contents (such as Science or Social Studies) in the foreign language.

3. The fourth metaconcern of the study, which is not explicitly covered in this article as it is expounded on in a volume co-edited with David Marsh and Juan Ráez Padilla (Pérez Cañado 2015), was to design an original teacher training model for teachers involved in CLIL programmes based on the research outcomes of the project.

4. These results have stemmed in the proposal of a specific CLIL Master’s (the first to be implemented in Spain) which explicitly addresses the lacunae diagnosed, thereby constituting an instance of research-based pedagogy. This Máster Universitario en AICLE comprises five modules and is aimed at linguistic and NLA teachers alike, both at pre- and in-service levels. In line with the findings of the study on which this article reports, the first module (Approaching CLIL) is aimed at redressing the lacunae ascertained vis-à-vis the theoretical underpinnings of CLIL for all the cohorts. The backdrop and origins of CLIL, its definition and characterisation, CLIL models and variants, and the theories of language and learning underpinning CLIL are all examined in this initial thematic block. Modules 2 and 3 – Mastering CLIL Language and Implementing CLIL – then complement this theoretical grounding from a more practical perspective. Here, attention is accorded to English language skills, targeting Cummins (1999) seminal distinction between BICS (Basic Interpersonal Communication Skills) and CALP (Cognitive Academic Language Proficiency) in order to equip teachers (particularly NLA and Infant and Primary Education ones, according to our outcomes) with both here-and-now language commonly used for social interaction, and specialised abstract language used for academic purposes. The main types of student-centred methodologies which are being implemented in connection to CLIL
are examined in the third module, together with principles for the design of materials and the integrated language curriculum. The fourth thematic block – *Consolidating CLIL* – targets the insufficient ongoing professional development documented in the study, by familiarising participants with professional networks and learning communities, as well as with the basics of CLIL research. The final *Practicum* module involves a practical training period and an end of Master’s project which favour taking the theoretically learned concepts to the practical plane. For a detailed rendering of the structure and contents of this new MA degree, cf. Pérez Cañado (2015).

**Disclosure statement**

No potential conflict of interest was reported by the author.

**Funding**

This work was supported by the Spanish Ministry of Education [grant EA2010-0087] (NALTT Project: “Needs Analysis of Language Teacher Training: A European Perspective”).

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