

Physical Education and English integrated learning: How school teachers can develop PE-in-CLIL programmes

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Abstract

This paper provides school teachers of Physical Education (PE) with strategies to facilitate the development of Content and Language Integrated Learning (CLIL). The article begins by introducing the concept of CLIL and outlining the literature related to both the integration of physical education and language and recent research about PE-in-CLIL. Next, the current scenario of CLIL provision in both pre-service and in-service teacher training in Catalonia is discussed. Then, a PE-in-CLIL development proposal is detailed and presented according to long-, medium- and short-term school planning. The proposal covers school policy, provides a work plan and explains how to plan PE-in-CLIL units and lessons. Finally, the proposal is summarised and teacher training necessities in both educational administration and universities are considered.

Key words

Physical Education, CLIL, foreign language, planning, teacher training, linguistic competence

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Introduction

In recent years, there has been increased interest in teaching and learning other subjects than languages through the medium of a foreign language. In Europe, the use of CLIL (Content and Language Integrated Learning) programmes to make Europe multilingual has become more widespread. The principles behind CLIL include the wide range of advantages of cross-curricular teaching and the learning of content in an additional language, mainly English.

The integration of content and language does not hold a prominent place in the literature on Physical Education (PE) but a number of papers do provide a background for creating and incorporating second language development through PE. The cultural and linguistic diversity of schools across the US is increasing, and Bell and Lorenzi (2004) provide practical examples and ideas to help physical educators incorporate language learning in PE lessons; that is, to provide opportunities to use the language with ESOL¹ students. In the same context, Clancy and Hruska (2005) argue that PE settings can be particularly conducive to second language learning because they offer conditions similar to those underlying children's first language acquisition process, and these authors provide examples of planning language objectives within the context of PE lessons. In Europe, the emergence of English as a lingua franca has had a significant impact and PE

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(1) English for Speakers of Other Languages

and language linkage are focused on English as a foreign language. In the context of bilingual German education, Machunsky (2007) deals with the development of material for PE-in-CLIL, explaining that in regular PE lessons BICS² outweigh CALP³, while in CLIL CALP should be the leading language. She then provides an example based on a volleyball lesson stressing CALP in which teachers should encourage the class to go beyond an everyday level of communication and «enable cognitively demanding speech prompts and written sources» (Machunsky, 2007, p.12-13). Ramos and Ruíz Omeñaca (2011) present a methodological proposal for teaching PE through English in a bilingual primary school in Spain. Their example is based on a motor storytelling activity conducted with learners aged 8–9. With regard to plurilingual Catalan education, examples of PE-in-CLIL units addressed to both primary and secondary school children can be found in the CIREL/CESIRE⁴ website. These materials were designed by Catalan teachers on leave in the UK and financed by the Department of Education of the Catalan Government.

With regard to research, very few studies have been published. In an article based on her doctoral thesis and focusing on learners aged 11–12 in Germany, Rottmann (2007) states that on a research-methodology level the descriptions of learners' conversations in a PE lesson show that they take a step beyond mere auditory-receptive language use. As regards the learning-theoretical level, the scenes provide an example of how modes of learning and individual learning opportunities are interrelated in classroom practice, and illustrate how one may condition the other.

Coral (2010) presents the results of a pre-experimental⁵ study of a group of learners aged 11–12 in a state school in Catalonia (Spain) that demonstrates that in the context of the research, young people's intrinsic motivation to engage in physical movement has a positive influence on their English language learning. Similarly, the application of the total physical response methods to PE lessons significantly improves learners' English language comprehension (Asher, 2003).

Figueras, Flores and Gonzalez-Davis (2011) use a multiple case study to show the high level of satisfaction of the students involved in a pilot experience introducing CLIL subjects in the Faculty of Psychology, Education Sciences and Sport of Ramon Llull University (Barcelona, Spain). Above all, students were satisfied with the role played by team-teaching, which was seen as the most important aspect of the approach. The authors observe that having to learn the conceptual and procedural contents of PE in English generated cognitive conflict in the students, thereby contributing to a learning process based on the principles of constructivist epistemology. The students saw this process as highly positive and were fully aware that this was a different type of learning, even though they were unable to identify exactly what type it was.

(2) Basic Interpersonal Communicative Skills

(3) Cognitive Academic Language Proficiency

(4) *Centre de suport a la innovació i recerca educativa en llengües* (Resource Centre for Innovation and Educational Research in Languages) of the Department of Education of the Government of Catalonia [http://phobos.xtec.cat/cirel/cirel/index.php?option=com_content&view=article&id=181&Itemid=212]

(5) The research was carried out in the 2007-2008 school year during a sabbatical period financed by the Department of Education of the Government of Catalonia.

Christopher, Dzakiria and Mohamed (2012) present the results of a case study aimed to introduce the method of teaching and learning English through sports at the Northern University of Malaysia. The study describes an English language teaching and learning method that uses sports to lead learners from indoors to outdoors activities and comprises three stages: first, immersion and building enthusiasm, which provides information about the sport and stimulates learner interest; second, the sports activity itself, where learners take part in the sport while teachers observe their use of language; and third, a post-activity review which encourages learners to speak while giving feedback about their experience and the learning process. The authors propose that this is an excellent confidence building exercise for learners who usually shy away from speaking English.

Coral (2012) reports the results obtained in a PE-in-CLIL action research project carried out as part of a doctoral programme in the research group Physical Education and Sports at the Faculty of Teacher Training of the University of Barcelona⁶. The research was focused on a group of learners aged 10–11 in Catalonia (Spain). The results showed that many of the PE features that promoted integrated learning were linked to balanced tasks, leading to the conclusion that the internal structure of tasks must be balanced between motor, language and cognitive demands. These activities integrate language with motor skills or games by providing meaningful information related to physical activity. As regards oral communication, the study found that cooperative strategies combined with leadership techniques fostered oracy when PE was taught with a CLIL approach. Coral's teaching proposal for a PE-in-CLIL programme includes five guidelines to facilitate the identification of the motor, linguistic, cognitive and social demands of integrated tasks.

The scenario of CLIL teacher training in Catalonia is diverse. While the Ministry of Education has fostered courses of both language and CLIL training for in-service teachers, at a university level such initiatives have been scarce. In the current recession, the cuts in the Ministry's budget have significantly reduced the number of courses and other stimuli for in-service teacher training, especially for teachers living abroad. At a university level, some Catalan teacher training faculties include a few subjects, other than foreign languages, which are taught totally or partially in English (e.g., the University of Barcelona, Ramon Llull University and the National Institute of Physical Education [INEF]). Recently, some faculties have begun to offer teacher training degrees taught entirely in English (Autonomous University of Barcelona) or at least partly in English (University of Lleida). But at a university level it is hard to refute the argument that «the shift towards adoption of English as a vehicular language does not automatically correlate with the introduction of CLIL» (Coyle *et al.*, 2010, p. 25–26). There can be no doubt that our model of European multilingual society will be seriously undermined if future generations of teachers do not achieve a high level of English and acquire the teaching strategies to teach through this language.

(6) During the preliminary phase of the research (2010) the author was financed by the Department of Education of the Government of Catalonia to go on leave to England to research the CLIL approach and design PE-in-CLIL materials.

While CLIL may enhance language teaching and learning in a multilingual Europe, there remains a dearth of PE-in-CLIL type materials and few teacher training programmes prepare both language teachers and subject teachers for PE-in-CLIL teaching. Although the theory is solid, questions remain about how theory translates into classroom practice and how teachers can incorporate PE-in-CLIL programmes into school policy. Most importantly, teacher training in both foreign languages and the CLIL approach must be considered and this is precisely the aim of the present article: to provide PE teachers in primary and secondary education with strategies to facilitate the teaching of their subject through a CLIL approach.

A PE-in-CLIL proposal: the lexicon of planning

Generally speaking and according to Contreras and Garcia (2011), teachers do not invest enough time in planning. Graham (2008) also considers that a number of PE teachers never engage in planning at a thorough level (to highlight its importance, he proposes that planning is to teaching what writing music is to the performance of a symphony). Doherty and Brennan (2008) consider planning to be a process in which decisions are made about how to reach a specified destination. In CLIL settings the importance of planning cannot be underestimated. If we want primary and secondary school children to receive both physical and (foreign) language education as the result of an integrated teaching-learning process considered as a destination, then we can plan accordingly:

1. A policy for integrated learning
2. A work plan for an integrated learning programme
3. PE-in-CLIL units
4. PE-in-CLIL lessons

A policy for integrated learning

Coyle *et al.* (2010) examine a range of curricular models that might be used to create a policy for integrated learning with a CLIL approach but observe that no models have actually been designed for this. They also observe that the CLIL model type will depend largely on the reasons why a school wishes to introduce CLIL and on its capacity to implement CLIL in a particular educational setting. Escobar (2009) proposes that any subject can be taught through CLIL. Whereas some schools choose a single subject for all school-level stages, others use the CLIL programme for particular years and subjects. Another approach may be to combine several subjects with all school years, hereby covering all the contents without interrupting the whole programme. Because the teacher's proficiency is deemed crucial, schools usually base their choice of the subject on the teacher's language level. But the key to the whole argument is that cooperation between subject teachers and language teachers must always be considered.

To incorporate a PE-in-CLIL programme in school policy, a detailed document should be submitted to the head teacher, deputy teacher and school board describing the purpose, nature and management of PE-in-CLIL at the school in question. The aims

of the integrated programme must be clearly stated and the document should explain how the PE curriculum relates to an EFL (English as a foreign language) curriculum. That said a prior agreement with the school's English department is also highly recommendable because language teachers will not only give advice on language issues but will also support the programme. Finally, this document should also describe the unique contribution PE can make to a learner's overall personal development, its bearing on transversal competences and the specific benefits a foreign-language-oriented PE programme can have for a given school's language development and for its status.

A work plan for an integrated learning programme

In our case, this is a long-term plan which provides the groundwork for a PE-in-CLIL programme across an educational stage. Because CLIL is a content-led approach (Coyle *et al.*, 2010), PE-in-CLIL should first be allocated in the PE curriculum. Next, the starting point and ingredients for the integrated programme should be defined, meaning the equipment, materials and facilities required, and the type of language support that will be used and how it should be provided to the learners. Teachers should choose between using published materials or make their own, and their choice should be clearly stated in the proposal. The time to be allotted to PE-in-CLIL and the strategies to be applied should also be specified so that the integrated programme does not negatively affect learners' physical activity during PE school time. Coral (2010, 2012) shows how a PE-in-CLIL programme can increase PE school-time using the flexible part of the curriculum that each school manages according to its own needs and objectives. According to Lynott (2008), one of physical educators' most common criticisms is that the physical activities they wish to do are hampered by the work plan, which is designed to accommodate the other subject.

This integrated learning proposal is based on the CLIL 4Cs framework (Coyle *et al.*, 2010). The 4Cs are Content, Communication, Cognition and Culture. The 4Cs are interconnected and their description is useful for both planning and teaching an integrated learning programme.

Content corresponds to motor learning experiences, which can be divided into three blocks⁷:

- Motor development, physical activity and health;
- Dance and body expression;
- Games and sports.

Communication in CLIL contexts is described as «learning to use language and using language to learn» (Coyle *et al.*, 2010). It is divided into *language of* (vocabulary and structures), *language for* (basic language functions such as asking and answering, explaining, giving reasons, etc.) and *language through* (the language needed to engage learners cognitively and solve unplanned situations). As the content is always the dominant element in terms of objectives, the vocabulary, structures and functions are de-

(7) Without neglecting national PE curriculums.

pendent on the former. Otherwise, unplanned situations such as off-task behaviour cannot be predicted in advance so an agreement between language teachers and content teachers should be reached. At this point, it would be impossible to underestimate the importance of collaboration with language teachers.

Cognition refers to thinking skills, which are classified as Lower Order Thinking Skills (LOTS) and Higher Order Thinking Skills (HOTS). LOTS and HOTS are related to Bloom's taxonomy (cited in Bentley, 2010; Coyle *et al.*, 2010; Doherty & Brennan, 2008). Cognition also refers to cognitive effort, problem solving and critical-thinking skills (Graham, 2008).

- LOTS: remembering/memorising, understanding, applying, identifying, comparing/finding similarities and differences, ordering, matching.
- HOTS: analysing, assessing, creating/inventing, predicting, expressing opinions, reflecting, making judgements, solving tactical problems.

Culture (and Citizenship) includes personal development, social interaction, intercultural understanding, cooperation and teamwork. Developing a motor content such as sports through a foreign language fosters international understanding by setting the context of the content in different cultures.

The Commission of the European Communities (2006) defines key competences as a «combination of knowledge, skills and attitudes appropriate to a given context» and goes on to describe these as the competences that «all individuals need for personal fulfilment and development, active citizenship, social inclusion and employment». By the end of their initial education and training, young people should have acquired the key competences to a level that equips them for adult life, and these should be further developed, maintained and updated as part of their lifelong learning process. Although PE relates to many transferable specific competences and cross-curricular contributions, its potential for developing academic and language skills is usually underestimated. It uses learners' intrinsic motivation to engage in physical movement to enhance learner willingness to retain information (Coral, 2010) and this motivation compensates for the difficulty of learning a foreign language. PE provides authentic, real-life situations that increase both language-time exposure and oral interaction.

As part of the whole education process, physical education is concerned with life-long physical, intellectual, social and emotional learning that accumulates through experiencing physical activities in a variety of contexts (Doherty & Brennan, 2008). Since content leads CLIL programmes, PE-in-CLIL provides the structure for a learning process based on 14 key issues:

- Efficient use of the body to exercise primary motor skills.
- Identification of appropriate practices for staying healthy.
- Moving safely with confidence and imagination.
- Controlled and coordinated movement.
- Awareness of space, oneself and others.

- Recognition of changes in the body when active.
- Participation in rhythmic body language and dance activities.
- Use of and familiarity with a wide range of equipment.
- Involvement in games, sports and leisure education.
- Use of modified games environment to enhance tactical awareness and skills needs.
- Promotion of inclusive physical education for all children.
- Cooperation, problem solving and creativity through motor experiences.
- Concern for facilities, equipment and resources.
- Facilitation of criteria for safe practices during physical activity.

Note here that most PE-in-CLIL programmes focus on four key competences, which are directly attended to in all lessons:

- Communication in foreign languages
- Learning to learn
- Sense of initiative and entrepreneurship
- Social and civic competences

Table 1 describes the major contributions of PE-in-CLIL programmes to pupils' learning across the curriculum of a PE-in-CLIL programme aimed at learners aged 11–12.

Table 1. Cross-curricular contributions in PEWorld 6 project

KEY COMPETENCES	Cross-curricular contribution
<i>Communication in foreign languages</i>	Interpret and understand commands and explanations. Use proper language to communicate with teacher and peers. Form correct sentences and report actions, scores and game procedure. Give opinions and justify decisions. Describe processes and express conditions.
<i>Learning to learn</i>	Gain, process and assimilate new knowledge acquisition skills. Make judgments and predictions. Use strategies to improve motor skills. Adapt, apply and create new activities. Collaborate to reach a common goal. Assess oneself as well as peers.
<i>Sense of initiative and entrepreneurship</i>	Set and achieve personal goals. Assume responsibilities when leading a group. Accept responsibility for one's own performance. Be efficient and creative in the development of individual tasks.
<i>Social and civic competences</i>	Assume responsibilities when participating in a team. Consider the benefits and risks associated with sport. Demonstrate respect for individual differences and performances. Accept both losing and winning with dignity and respect.

Source: (Coral, 2013d).

PE-in-CLIL units

First, medium-term teaching aims and learning outcomes are established according to learner age and curriculum demands; next, the contents are described (motor learning experiences, communication, cognition, and culture and citizenship), as are the assessment criteria and tools; finally, teaching techniques and styles, differentiation strategies, scaffolding, equipment, facilities and planned timing are detailed.

This PE-in-CLIL proposal uses two types of teaching objective: common goals and personal goals. The common goal is the main objective of the unit and is required for all the members of the class. It usually involves an integrated approach, meaning that it requires motor, language and cognition skills. By contrast, personal goals are objectives designed at three levels of difficulty so that learners can choose the level that best matches their character and abilities. Personal goals can be related to motor content, language or both. If the common goal puts major language demands on the student, it is better to include more motor options in the personal goals. On the other hand, if the common goal is motor-oriented it is better to include more options related to language. Generally speaking, the teaching objectives of the lesson plans must offer a balanced combination of motor-oriented and language-oriented goals.

Table 2 shows the teaching objectives of a soccer lesson plan aimed at learners aged 11–12. To achieve the common goal, knowledge of the game and language skills are both required and the pupil-referee should know the rules of the game and the proper use of language in order to justify his or her decisions. On the other hand, personal goals focus more on motor experiences: two of them are motor-oriented and one is language-oriented.

Table 2. Soccer teaching objectives

Teaching objectives	
<i>Common goals</i>	<i>Personal goals to be chosen by the pupils</i>
	Explain the rules of the game 'Stuck in the mud' and play it.
Referee a game of chain football	Pass and trap the ball 20 times from a distance of 10 metres without losing ball control.
	Complete a four-minute skills circuit with dribbling and steering activities without losing ball control. Jog continuously.

Source: (Coral, 2013d).

In a learner- rather than teacher-centred planning model, Bentley (2010) refers to learning outcomes as statements of what most learners should learn as a result of the learning experience. This PE-in-CLIL proposal is a learner-centred programme and learning outcomes are used to identify what students should *know*, *be able to do* and *be aware of* at the end of the unit. Selected learning outcomes are clearly defined and linked to achievement indicators to be used in assessment procedures. Table 3 shows the learning outcomes of an Aerobics dance unit for learners aged 11–12.

Table 3. Aerobics dance learning outcomes

	Learning outcomes	What learners can do
<i>Know</i>	How to create an aerobics routine.	Create an aerobics routine.
	Dance vocabulary.	Identify dance vocabulary.
	How to explain an aerobics routine.	Use proper language to explain an aerobics routine.
	How to measure agility.	Measure agility.
<i>Be able to</i>	Participate in dance activities.	Participate successfully in dance activities presented in the unit.
	Perform the grapevine step.	Perform the grapevine step in time with music.
	Perform the V-step.	Perform the V-step in time with music.
	Perform an eight-minute workout.	Keep pace with an eight-minute workout.
	Predict a performance indicator.	Use proper language to make accurate predictions about their agility.
<i>Be aware of</i>	Dancing cultural differences.	Respect cultural differences when performing a dance.

Source: (Coral, 2013d).

In a PE integrated approach, contents are related to the 4Cs framework. Consequently, a description of the motor learning experiences, the communication, the cognition, and the culture and citizenship contents are included. Table 4 shows the 4Cs descriptions of a unit aimed at learners aged 10–11 including parachute activities, a workout dance and a reciprocal balance testing activity.

Table 4. 4Cs descriptions related to a unit aimed at learners aged 10–11

CONTENT		
Motor development, physical activity and health	Dance and body language	Games and sports
Upper body strength, general coordination, time and spatial awareness. Endurance workout. Flamingo balance test.	Curtsy lunge and sword draw movement. Ten-person human figures (acrosport).	Cooperation games.
COMMUNICATION		
Vocabulary	Parachute, triangles, pack, unpack, edge, weather, mountain, fall down, gap, collapsed, hill, volcano, fox, hare, clockwise, anti-clockwise, merry-go-round, gallop, fangs, jaws, snake, bite, antidote, interlocking, gear, cog, mushroom, igloo, wave, balance, dominant, non-dominant, curtsy lunge, sword draw, wrap up.	
Structures	The ... fell down ... What's the weather like over the...? There is / There are / It is ... over the ... It's a ... It bit me with its fangs on my ... When I was walking ... So, I came back to ... Let's play Interlocking gears ... clockwise/anti-clockwise. We succeeded / didn't succeed at ... because we ... I lost my balance ... I think that on my ... I'll lose my balance between ... and ... times. My result is ... So, I need ...	
Functions	Commanding. Explaining. Asking and answering. Reporting back. Giving opinions. Justifying judgments. Predicting.	

Table 4 (continuation)

COGNITION	
LOTS (Low Order Thinking Skills)	HOTS (High Order Thinking Skills)
Remembering	Analysing
Understanding	Making judgements
Identifying	Applying assessment criteria
Applying	Making predictions
Memorising	Creating

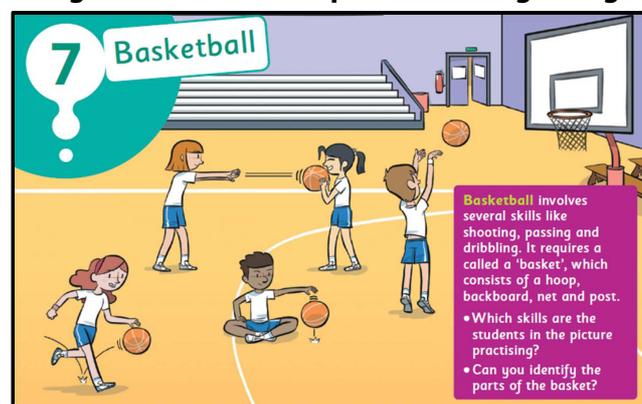
CULTURE AND CITIZENSHIP
Understand how each person makes a contribution when attaining common goals in an activity. Participate as a leader and a follower in physical activities. Awareness of a healthy life-style. Demonstrate respect for the equipment during physical activities. Accept responsibility for one's own behaviour in a group activity. Cooperate to reach a common goal.

Assessment

Assessment refers to all those activities undertaken by both the teacher and learner to provide information about the teaching and learning process (Doherty & Brennan, 2008). In a curriculum based on competences, assessment activities are used to enhance learners' learning awareness (Blázquez & Sebastini, 2009). The holistic approach of PE-in-CLIL recommends assessing all the 4Cs, meaning the content, any communicative or cognitive aspects, and the issues related to citizenship and culture. Consequently, the objectives of the unit as well as the learning outcomes should be included in the assessment procedures.

«We do not learn from experience ... we learn from reflecting on experience» (Dewey). Each unit should begin with a lesson that introduces a topic and activates learners' prior knowledge of this topic as well as pre-teaching key vocabulary and preparing the class for a new learning experience. To activate prior knowledge in PE-in-CLIL and ensure comprehension, four strategies can be used simultaneously: movement, pre-teaching, conversation and visual supports. Figure 1 shows an image presented at the beginning of the unit to activate prior knowledge and pre-teach basic basketball vocabulary before the class performed movement activities. It is aimed at learners aged 10–11.

Figure 1. Basketball's prior knowledge image



Teachers' checklists and rubrics allow teachers to register the observable outcomes against predetermined criteria. They can be used for both formative and summative assessment. The class should be systematically provided with feedback about their achievement during the whole learning process. The teacher should also explain the unit's personal and common goals and the assessment criteria in advance and explain how the scoring system will work. As Giles-Brown (2006) observes, if the children learn how to use the scoring rubric to assess their own work before handing it in or performing their skills, they will hit their target more often.

PE teachers usually have a large number of classes and for this reason code systems are used to facilitate the registration in both qualitative and quantitative approaches (Table 5). The description of the categories provides a graded continuum which shows how learners can demonstrate mastery in their learning process.

Table 5. Teacher's checklist code system

Qualitative codes	S	A	M	E
Categories	Starting	Approaching	Meeting	Exceeding
Descriptions	Improvement is not evident. Very few complete or correct responses.	Slight improvement is evident. Only some responses are correct.	Improvement is evident. Most responses are correct.	Improvement is evident. All responses are complete and correct.
Reduced description	Needs improvement	Slight improvement	Solid improvement	Expert
Quantitative codes	0	1	2	3

Rubrics explain in qualitative terms what learners need to include in response to receive a specific score (Table 6). When the goals are revisited throughout the unit, rubrics help students to reflect on their performance.

Table 6: Rubric to assess specific flexibility activities

Starting	Approaching	Meeting	Exceeding
Neither flexibility exercise targets major muscle groups used in the specified activity and the activities presented are not flexibility exercises.	One flexibility exercise targets a major muscle group used in the specified activity. The other either does not target a major muscle group used in the specified activity or is not a flexibility exercise.	Both flexibility exercises target major muscle groups used in the specified activity.	Both flexibility activities target major muscle groups used in the specified activity. Artwork, specific examples, or details that support answers are included.

Source: adapted from Giles-Brown, 2006.

Across the curriculum, portfolios and other written products are highly valued instruments that provide students with other ways of communicating what they have learned. But although these can be very useful in an integrated approach, scaffolding should be provided in order to compensate for the difficulties of writing in a foreign

language. Proficiency in writing skills can also disguise the results of the learners' achievement in motor skills, so they should be used for the purposes of reflection or as a complementary tool.

Peer assessment activities not only provide valuable information for peer learning but also prompt the class to identify mistakes in their thinking and correct any problems in future assignments. With guidance, learners learn to focus on the specific cues outlined for a skill, which raises their awareness of what they know and enables them to assess their own level of achievement. Figure 2 shows a group assessment activity aimed at learners aged 11–12.

Figure 2. Group assessment of human figures performance

TASK 12 Rate the other group's performances following the instructions you are given.

What are we going to rate?

BALANCE	DIFFICULTY	AESTHETICS	ORIGINALITY	SAFETY MEASURES
↓	↓	↓	↓	↓
Do they keep their balance well?	Is it difficult?	Are their bodies keeping a good posture?	Do you think it is different to the figures practised before?	Do they follow all the safety measures given?
↓	↓	↓	↓	↓
Not well (0) Quite well (1) Well (2) Very well (2,5)	Not difficult (0) Quite difficult (1) Difficult (2) Very difficult (2,5)	Not good posture (0) Quite good posture(1,5) Good posture (2,5) Very good posture (3)	Not very different (0) Quite different (0,5) Very different (1)	Not well (0) Well (0,5) Very well (1)

(use the numbers to rate each figure)

Source: (Prat, 2009).

Self-assessment is another useful tool in PE-in-CLIL because it combines a pupil's reflection on his or her own motor performance, language skills and high order thinking skills. Self-assessment raises both learners' and teachers' awareness of perceived levels of abilities. Figure 3 presents a self-assessment activity aimed at learners aged 10–11.

Figure 3. Basketball self-assessment task

Reflecting on my work in Basketball	
Think about...	Shade in the bar to the point that represents your work during these lessons.
	Never sometimes very often always
I worked hard to improve basketball skills.	
I was a respectful and responsible class member.	
I used time efficiently. I was a respectful listener.	
I supported my classmates when they needed it.	
I collaborated with the group and the teacher if needed.	

Teaching techniques

As illustrated by Mosston's Spectrum of Teaching Styles (Mosston & Ashworth, 1986), PE benefits from a varied teaching approach; but when teaching PE-in-CLIL, language

techniques must also be considered. In order to learn exact content material in a language they do not completely dominate, learners require specialized teaching techniques that can make the message understandable. Comprehensible input in PE-in-CLIL lessons is much more than simply enunciating clearly or speaking more slowly; it involves a conscious effort to make the lesson understandable through a variety of means (Echevarría, Vogt & Short, 2010. p. 79). Communication is more successful when various strategies are used simultaneously. In addition to speaking in a manner which is appropriate to learners' language level and using simple sentence structures, it is useful to show pictures as visual clues and give physical examples. Similarly, comprehension must be continuously checked in different ways, including random questions, asking for physical examples or reciprocal teaching between learners.

Total Physical Response (Asher, 2003) links physical activity with language acquisition. To reinforce understanding, actions are accompanied by physical movement. Fortunately, in PE most of the motor skill vocabulary can be communicated to learners by demonstrating the skill. This need not mean that all the activities should be explained by physical examples. Indeed, teachers may decide not to give physical examples to avoid imitating behaviours. Physical examples should be used for reinforcing comprehension and physical responses should be elicited for checking understanding.

Language teachers and content teachers involved in immersion education systems use two language teaching techniques that are very helpful in CLIL environments: paraphrasing and reformulating. Paraphrasing is using different words to repeat something a learner has said and it can be used for explaining meaning and for helping students who are unsure which language to use; reformulating involves the teacher correcting a learner by repeating the learner's incorrect sentence correctly without drawing attention to his or her mistake. The aim is to make learners feel comfortable in the CLIL lesson by giving them good language models and encouraging them to use language without slowing down the pace of physical activity.

PE-in-CLIL uses a communicative approach, which is highly effective in making learners themselves understood in the shortest possible time. To support this process of learning, it is better to use a wide range of language teaching techniques, which can include:

- *Pre-teaching*. Before introducing an activity, the teacher introduces key vocabulary related to the skill or activity. The teacher uses images that match with the key words, text, gesture, mime or physical examples if necessary.
- *Eliciting*. Giving clues to help the class locate information or answer a question is more beneficial than simply giving the right answer.
- *Scanning*. Learners read a text quickly in order to pick out specific information, which makes the text easier to understand as a whole.
- *Skimming*. Learners read a text quickly in order to get a global understanding, which serves a similar purpose.
- *Recasting*. Rephrasing a phrase or sentence which is correct but inappropriate in the context in question.

Cooperative learning is a teaching format in which the class works together in small, heterogeneous groups and in which interpersonal skills, positive interdependence, individual accountability and group processing are key elements (Dyson & Rubin, 2003). The effectiveness of tasks based on cooperative organisation (Casal, 2008; Coral, 2012, Curto, Gelabert, González and Morales, 2009) confirms that they are essential for increasing Student-Talking-Time, even though they need to be tailored to the class in question. Group organisation cannot be achieved randomly; in fact, it must be balanced. All the learners' abilities (motor, linguistic, cognitive and social) are equally important, and learner gender must also be considered. Based on what the teacher knows about the whole class, three steps are used to assemble the cooperative groups: first, the teacher chooses the members of the groups; then, the members of each group elect a leader; and finally, each leader chooses his or her helpers for specific purposes. Generally speaking, therefore, cooperative groups are made, helped and monitored by the teacher. The groups should be heterogeneous and each should contain between four and six learners; the members should also change each term. Ideally, each group should be of mixed gender and include a strong English speaker, someone with good motor skills and someone with learning difficulties. Rewarding the group on the basis of their successful group effort and cooperation rather than their goal achievement encourages teamwork. That said, the teacher can also take rewards away when there is negative off-task behaviour, and this technique helps minimise discipline problems.

The internal structure of the cooperative group is also important. Each group should use democratic procedures to elect its leader. The leader then suggests more roles within the group to distribute group responsibility (one group member to act as equipment manager, another to act as spokesperson, another to guarantee group order in the proceedings or to take the minutes, etc). Peer interaction and peer tutoring strategies (Lieberman & Houston-Wilson, 2009) are very useful for enhancing group learning. The leader's role is connected with peer tutoring because he or she offers encouragement and feedback to the others when this is needed.

Differentiation

The STEP framework (Doherty & Brennan, 2008) is used not only to make motor learning experiences easier or harder, but also to assist in differentiation. STEP is the abbreviation of the four variables in the learning experience: space, task, equipment and people. These can be modified to facilitate participation and enable all learners to achieve personal goals. Table 7 illustrates this with the example of a chasing game.

Table 7. Applying the STEP framework to a chasing game

STEP framework	Easier	Harder
<i>Space</i>	Smaller field	Bigger field
<i>Task</i>	Chaser alone, dodgers in pairs.	Everybody in pairs, shaking hands
<i>Equipment</i>	A smaller ball that can be grasped with one hand.	A larger ball that takes two hands to carry.
<i>People</i>	Wheelchair users: play with a peer helper. Throwing the ball is allowed. Blind players: Peer guide	Similar speed and endurance.

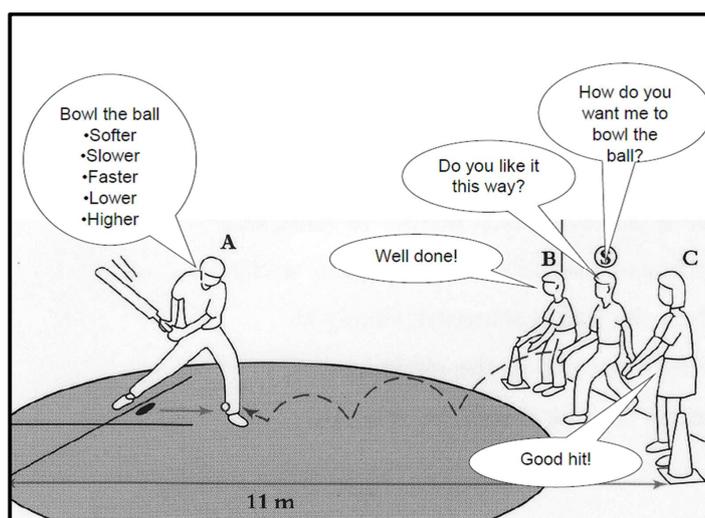
Scaffolding

Scaffolding is a teaching resource that provides guidance and helps learners understand and complete a given task. The term itself comes from the works of Wood, Bruner and Ross (1974) and it is linked with Vygostky's 'Zone of Proximal Development' (Lipscomb, Swanson, & West, 2004). Borrowing its meaning from the temporary structure that supports people and material in the construction of buildings, scaffolding in CLIL refers to the provisional help given to a class and to how this is offered and then gradually withdrawn. In this sense, scaffolding is a bridge that allows a class to reduce the gap between what they already know at the beginning of a task and what they are expected to know by the end. The teacher offers assistance with only those skills that are beyond the learners' capabilities. Although errors are expected, the class should be able to complete the task alone and then the teacher gradually withdraws the scaffolding to keep the task within their capabilities but ensure that it remains challenging. Because it can be adapted to learners' individual needs, scaffolding is also a good differentiation tool.

Movement and physical examples used to demonstrate the task can be considered as a type of scaffolding, as can the adaptation of language to learners' needs. Similarly, the teaching language techniques described above (e.g., pre-teaching, eliciting, paraphrasing) are scaffolding strategies. But the four most widely-used scaffolding tools in PE-in-CLIL are realia, substitution tables, visual organisers and work banks or glossaries.

- Realia are real objects used during the lesson to assist comprehension and to integrate language with physical activity. Handling real objects is particularly helpful for language acquisition. Figure 4 shows scaffolding that combines realia with a storyboard used in a cricket skills circuit. The fielder and batter experience the objects, the space-time relationship between them and the throwing actions and speeds.

Figure 4. Cricket scaffolding



- Substitution tables are mainly used to facilitate communication and the arrangement in columns may be combined to make sentences that help learners with a low language level express their opinions about the content. It should be easy to

use as long as teachers remember that «it is important in CLIL contexts always to make substitution tables a stimulus for thinking and not just for random selection of language to help expression» (Coyle *et al.*, 2010, p. 106-107). Figure 5 shows a substitution table for referees to justify their decisions in a six-on-six floorball game aimed at learners aged 10–11. In PE-in-CLIL sports teaching, there is less need for oral communication once the players have learnt the basics and, from then on, short codes, simple phrases and non-verbal communication become the norm. To compensate for this lack of oral communication in sports, refereeing roles are included in the activity. Because of this, sports' teaching becomes holistic and because language is embedded in the game all the 4Cs are needed to complete the activity successfully. Again, scaffolding is essential because it helps referees make and communicate decisions. Referees' teams can also score if their decisions are correct and they report properly. This strategy makes the game more real and coherent.

Figure 5. Floorball referee substitution table

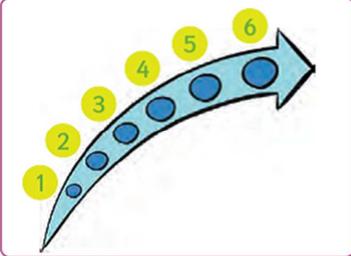
Game calls: SIX-ON-SIX FLOORBALL			
Head referees			
Free hit for ... because ...	hit an opponent. played two against one. hooked an opponent's leg. used his/her body to stop/play the ball. raised his/her stick above waist height.		
Penalty area assistants			
Penalty shot for ... because the foul occurred inside the penalty area.			
Timekeepers			
There is/are ...	minutes seconds	left.	
Blue ...	team's final score is ... points,	so	the ... team wins. it's a draw.

- According to Bentley (2007, p.135), visual organisers like story boards, (for direct speech) or time-lines (for classifying events in chronological order) «can also help students to develop speaking skills because they provide a frame of an *aide memoir* to help structure and scaffold thinking and talking». Likewise, diagrams and charts can be used for organising and contrasting the information collected during a physical activity. Visual organisers in PE-in-CLIL lessons help learners acquire greater CALP. As Bentley (2007, p. 134) observes, «it is important that learners move beyond everyday conversational skills towards mastery of language that is more complex and coherent for educational purposes». Figure 6 shows a time-line used at the end of the lesson to classify the steps of a flag-football offensive play. Aimed at learners aged 11–12, it uses sequence connectors such as 'first', 'then', 'next', 'after that', 'later', and 'finally'.

Figure 6. Scaffolding used to describe a sequence

5 Place these steps in order.

- The quarterback passes the ball forward.
- Players take their positions.
- The offense agrees on the passing route.
- The quarterback makes the call.
- The centre snaps the ball to the quarterback.
- The receiver catches the ball in the air and runs towards the goal line.



- Word banks and glossaries make new vocabulary accessible. Word banks are lists of words required for learning key aspects of the subject content and are used to pre-teach the key vocabulary of a given lesson. Glossaries are alphabetical lists of the most important words used in the unit with their definitions, and they generally appear at the end of the subject content. Figure 7 shows an introductory cricket activity aimed at secondary school learners aged 13–15. The key words are highlighted in the text and then defined in the word bank. For primary school learners, glossaries and new vocabulary are usually accompanied by images.

Figure 7. A cricket introductory activity

Cricket	
Activity 1 Reading skills	
Objective: Understanding the rules of cricket through reading	
a) After Reading the text below label the objects in the drawings	
Text	
Cricket is a sport played by two teams of eleven players on an oval-shaped field. In the middle of the field is what is known as the pitch. The pitch is a hard, flat strip of grassy earth around 18 metres long with a set of stumps at each end. The stumps are three sticks of equal size around 90 centimetres high with 5 centimetres separating them. The bails (small pieces of wood) are balanced on top of the stumps. Teams take turns at batting. After tossing a coin, the batting team starts with two batsmen on the pitch at the same time, both at different ends. The batting team tries to score by getting runs or hitting the ball over the boundaries while the fielding team works to get the batsmen out. There are different ways of doing this:	
<p>when the wicket keeper breaks the stumps</p> <p>when a fielder catches the ball before it hits the ground after being batted</p> <p>when the batsman is hit in the leg in front of the stumps</p> <p>when the ball breaks the wickets</p>	
The winner is the team that scores more runs at the end of the game	
Vocabulary	
Oval-shaped: Form similar to an egg Pitch: Rectangular zone Flat strip of grassy earth: Hard surface of grass Stumps: Wooden sticks Bails: Little wooden sticks	Wicket keeper: The player behind the wickets Fielders: players who try to get the ball after the batting Tossing a coin: To draw who starts batting Boundaries: limits of a field

PE-in-CLIL lessons

PE-in-CLIL is a holistic approach that uses the basic yet essential principle of learning that 'we learn by doing'. Based on tasks which push the class to go further but which also give them the support to do so, PE-in-CLIL fosters content, language, cognition and cultural awareness. A lesson is a short-term plan involving a sequence of tasks. Each task is composed of specific activities, drills or motor development problems that coincide with specific goals, processes and steps. To complete the tasks, the class has to attain clearly-defined goals by using different motor, communicative, cognitive and volitive procedures.

The lesson plan should include the following: the teaching aims; the contents related to motor learning experiences; the vocabulary, structures and functions; thinking skills and personal and social development; the resources and facilities that will be needed; and a sequence of activities, usually divided in three phases. Although some routines are inherent to both school procedures and PE lessons, at the beginning of the school year it is important for the class to know what protocols will affect the PE-in-CLIL class management (if need be, this should be explained to them in their native language). At this point the class should be told all about the routines, the groups' organisation and roles, the language that will be needed to ask for equipment, and the roll calls and dressing room procedures. It is also very important for the subject teachers to reach an agreement with the language teachers about which language to use for class management, especially where younger learners are involved.

Although there are variants in the initial and concluding stages, traditionally the three parts of a PE class are the warm-up, main body and cool-down. The most common way of starting a lesson is to prepare the class physically for doing a specific type of activity. However, Velázquez and Hernández (2010) recommend an introductory phase explaining the goals of the lesson and introducing activities that connect with the previous lessons. Language teachers use a similar lesson plan when they introduce the topic and elicit learners' previous knowledge through brainstorming. Graham (2008) highlights the concept of *instant activity* as a means to facilitate a quick start. Children usually come to physical education class ready to move and they want to be active, not listen to the teacher talking. *Instant activity* is an effective way to direct energy and calm children down. To use this type of introduction, scaffolding should be provided. For example, flashcards, visuals or written cards are posted around the court or gym giving instructions about the activity to be done. After a few minutes, when the class has burnt some of its initial energy, the children are ready to listen. Then, the goals of the lesson are explained and the key vocabulary or concepts are introduced. *Instant activity* is also used in foreign language lessons. The teacher exhibits lesson objectives, key vocabulary and flashcards on the walls around the classroom and this provides learners with a language-rich environment that encourages them to discover what the lesson is about. Songs, tongue-twisters and introductory games are also usual, especially with younger learners.

PE-in-CLIL lessons must provide an introduction that covers the physical, psychological and language preparation the class will need to complete the activities that follow. Although teachers can use any of introductions described above, the infor-

mation related to the goals of the lesson should be provided, the key vocabulary or concepts should be explained and a physical game or activity should be performed. At this point, it is very useful to have learners play physical games that appeal to them and are designed to introduce the key vocabulary without slowing down the pace of the class.

The main body or development phase is the core of the lesson, and it focuses on knowledge and skills acquisition through practical activities. The development phase provides the class with opportunities to demonstrate what they can do and should encourage oral interaction. Teachers are recommended to use a sequence of connected tasks to facilitate motor learning, language use, thinking skills and social development. As Coral (2012) observes, research demonstrates that many features of PE tasks that promote integrated learning are linked to balanced tasks. A task is said to be balanced when it requires equal measures of motor, communication and cognition skill. A balanced and efficient task must meet five conditions: it must be motivating, include physical activity, foster oral interaction, develop thinking and be socially conducive. Drills with long explanations that encroach upon the time allotted to physical activity are rejected, and tasks that incorporate language and movement without slowing down the pace of the activity are the most advantageous. In order to create balanced tasks, language must be embedded in physical activity. Language needs to be incorporated in tasks without slowing down the pace of the physical activity and good examples of how to do this include asking learners to report the actions or results of a game, justify the decisions of the referee's team in a sport, explain a game, give instructions reciprocally, lead a workout, make predictions about performance speed, chant while jumping over moving objects or skipping ropes, or write down notes in the rest phase of a circuit. Still, fully balanced tasks are difficult to design. Generally, content or language assumes priority according to the task sequence (Gajo, 2007) and so teachers may also consider set-tasks composed of unbalanced integrated tasks. Considered as a whole, a lesson is balanced when the teacher presents a carefully designed sequence of unbalanced tasks. To facilitate the creation of PE-in-CLIL tasks, both the CLIL matrix (Coyle *et al.*, 2010) and the PE-in-CLIL teaching guidelines based on Bloom's taxonomy should be considered (Coral, 2012).

Traditionally, the aim of the cool-down or conclusion phase of the PE lesson is to calm the class down. This is the phase where learners are often asked to complete stretching activities. Different authors (Velázquez & Hernández, 2010; Graham, 2008, Doherty & Brennan, 2008) recommend cognition activities such as self-assessment and high order-questioning to promote reflection and critical thinking or have learners summarise the lesson. Similarly, teachers in language learning and CLIL settings are recommended to use a plenary structure at the end of the lesson, asking the whole class questions about what they have learned, and monitoring understanding and re-teaching the content. In PE-in-CLIL, the conclusion phase of the lesson is also a good moment for activities that foster integration between content and language both orally and in writing. Labelling and matching are easy activities for young learners. Gap-filling or classifying tasks can be easily applied to older primary school learners. Written diaries should also be considered for secondary school learners.

Conclusion

Section 1 of this article examines the concept of CLIL and the literature on the integration of physical education and language. Although very little research has been published on PE-in-CLIL, meaningful data are summarised and the article describes the current scenario of CLIL in both pre-service and in-service teacher training in Catalonia. The writer then states the aim of the article, which is to provide PE teachers in primary and secondary education with strategies to facilitate the teaching of Physical Education using a CLIL approach.

Section 2 of the article considers planning as an essential part of PE-in-CLIL. It proposes a planning procedure that assures learners both physical and foreign language education through an integrated teaching-learning process, which comprises a policy for integrated learning, a work plan for an integrated learning programme, PE-in-CLIL units and, finally, PE-in-CLIL lessons (Section 2, Parts 1, 2, 3 and 4, respectively). In this section, the article describes how to present a proposal document to a school board and head teacher. Next, it outlines the work plan, a long-term plan based on the CLIL 4Cs framework (Coyle *et al.*, 2010). Then, PE-in-CLIL units are analysed throughout. These form the medium-term plan, where teaching aims and learning outcomes are established according to learner age and the demands of the curriculum, and this part of the article includes descriptions and examples of the contents, assessment criteria and tools, teaching techniques and styles, differentiation strategies and scaffolding. PE-in-CLIL lesson structure is discussed by comparing and contrasting the features of traditional and current tendencies in PE and language. Suggestions about how to adapt PE lesson structure to CLIL contexts are also provided.

The article also discusses how to plan the use of PE-in-CLIL programmes at schools. Teachers with the knowledge of both the content and the target language need to plan and practise teaching their subject, but they also need to reflect on that teaching. There are a number of research strategies and procedures teachers can draw upon to systematically evaluate their own practise (Zwozdiak-Myers, 2012). Nevertheless, it is not enough for teachers to show willingness and identify opportunities to reflect on action procedures; it is also necessary for educational administrations to provide conditions that can stimulate this reflective practice.

Catalan universities are increasing their offer of subjects taught in English. This poses the question of whether pre-service teachers are to perform as CLIL teachers in the future, and it is reasonable to assume that they will need training in several areas of professional practice. In actual fact, the idea of learning a subject in a foreign language at university can be somewhat misleading because although foreign language acquisition is a pre-requisite for pre-service teachers, this does not mean that these teachers know how to teach in a foreign language. As Sandberg (2011, p.255) observes and because teaching in a CLIL environment is challenging, to enhance the teaching-learning process pre-service teachers need to practise CLIL teaching strategies together with their peers, colleagues or fellow students. Indeed, future CLIL teachers will need opportunities to study both their subjects and the CLIL pedagogy in the target language.

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La Educación Física y el aprendizaje integrado del inglés: cómo los maestros de escuela pueden desarrollar programas AICLE en Educación Física

Resumen: El presente artículo proporciona estrategias al profesorado de Educación Física para facilitar la incorporación y aplicación de programas de Educación Física en AICLE (Aprendizaje Integrado de Contenidos y Lenguas Extranjeras). En primer lugar se introduce el concepto AICLE y se revisa la literatura más reciente relacionada con la enseñanza-aprendizaje integrado de la Educación Física y la lengua inglesa. Seguidamente, se resume el estado actual de la formación del profesorado en AICLE para continuar con la formulación de una propuesta de planificación a largo, medio y corto plazo dirigida a desarrollar dichos programas en el centro. La propuesta aporta ideas para facilitar su incorporación a los centros educativos, proporciona un esquema de trabajo y da orientaciones para la programación de las unidades didácticas y las sesiones de Educación Física en AICLE. En las conclusiones se resume la propuesta y se pone de relieve las necesidades de formación tanto del profesorado en activo como la de los futuros maestros.

Palabras clave: Educación física, AICLE, lengua extranjera, planificación, programación, formación del profesorado, competencia lingüística

L'éducation physique et l'apprentissage intégré de l'anglais: comment les instituteurs/trices peuvent développer des programmes d'éducation physique en EMILE

Résumé: L'article fournit des stratégies aux enseignant(e)s d'éducation physique qui facilitent l'incorporation et l'application de programmes d'éducation physique en EMILE (Enseignement de Matières par l'Intégration d'une Langue étrangère) dans les centres éducatifs. En premier lieu, il introduit le concept EMILE et révisé la littérature la plus récente en rapport avec l'enseignement-apprentissage intégré de l'éducation physique et de la langue anglaise; puis, il résume l'état actuel de la formation des enseignant(e)s en EMILE. En second lieu, l'article formule une proposition de planification –à long, moyen et court termes– pour développer des programmes d'éducation physique en EMILE dans les centres éducatifs. La proposition apporte des idées pour faciliter l'incorporation de ces programmes dans les centres, donne le schéma de travail ainsi que des orientations pour programmer les unités didactiques et les séances d'éducation physique en EMILE. Dans ses conclusions, l'article résume la proposition et met l'accent sur les nécessités de formation aussi bien des enseignant(e)s en activité que des futurs professeur(e)s.

Mots clés: éducation physique, EMILE, langue étrangère, planification, programmation, formation des enseignant(e)s, compétence linguistique

L'Educació Física i l'aprenentatge integrat de l'anglès: com els mestres d'escola poden desenvolupar programes AICLE en Educació Física

Resum: L'article proporciona estratègies al professorat d'Educació Física que faciliten la incorporació i aplicació de programes d'Educació Física en AICLE (Aprentatge Integrat de Continguts i Llegües Estrangeres) als centres educatius. En primer lloc, s'introdueix el concepte AICLE i es revisa la literatura més recent relacionada amb l'ensenyament-aprenentatge integrat de l'Educació Física i la llengua anglesa. Tot seguit es resumeix l'estat actual de la formació del professorat en AICLE. En el següent punt es formula una proposta de planificació –a llarg, mig i curt termini– per desenvolupar programes d'Educació Física en AICLE als centres educatius. La proposta aporta idees per facilitar la incorporació d'aquests programes al centres, proporciona l'esquema de treball i dona orientacions per programar les unitats didàctiques i les sessions d'Educació Física en AICLE. En les conclusions es resumeix la proposta i es posa de relleu tant les necessitats de formació del professorat en actiu com la dels futurs mestres.

Paraules clau: Educació Física, AICLE, llengua estrangera, planificació, programació, formació del professorat, competència lingüística