Content and Language Integrated Learning: In Search of a Coherent Conceptual Framework

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Abstract

Content and Language Integrated Learning (CLIL) has gained widespread acknowledgement in numerous education systems not only in Europe but also in other continents since its onset in the 1990s in Europe. However, despite its extensive reputation, CLIL has not yet attained a fully developed educational model. This study highlights the need for a coherent theoretical framework compatible with competency-based CLIL practices. The first part of this paper reviews the literature on CLIL, and relevant literature on foreign language teaching and sociocultural theories of learning. In the second part of the paper, the authors, drawing on the outcomes obtained from the CLIL research studies they have carried out, propose a socially mediated activity (SMA) framework for CLIL practices designed especially for young learners. In the conclusion part the authors refer to their future research projects, discuss some potential CLIL research perspectives, and suggest some research tasks that could enable researchers to develop well-informed theories and models for successful CLIL practices.

Keywords: CLIL, sociocultural theory, competency-based approach, ELT, action-oriented learning, task-based instruction, communicative language teaching

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Introduction

Content and Language Integrated Learning (hereafter CLIL) has gained widespread acceptance in diverse education settings not only in Europe but also in other continents since its outset in the 1990s in Europe. However, despite its extensive reputation, CLIL has not yet attained a fully developed educational model. In this paper we attempt to highlight the importance of a coherent theoretical framework that is compatible with competency-based CLIL practices.

In the first part of the paper we review literature on CLIL practices and research done in various educational contexts. In this literature review section, we provide our readers with a comprehensive definition of CLIL and highlight the principles on which the approach is founded. In this literature review section, we also compare the key features of CLIL with the sociocultural (SC) theory and competency-based foreign language Teaching (CBLT), a contemporary foreign language teaching approach that CLIL is part of.

In the second part of this paper we refer to the research studies we have carried out on CLIL since 2012 in a French Polynesian primary school context. Drawing on the observations made during these studies, and relevant literature on the topic, we propose a socially mediated activity (SMA) framework for CLIL practices designed especially for young learners.

In the conclusion section, we discuss potential CLIL research perspectives and suggest some research tasks which could provide CLIL researchers with an informed understanding of CLIL issues.

What is CLIL?

CLIL is an educational approach that uses a language other than the learners' L1 to teach a school subject. The term CLIL was coined by a group of language experts and researchers who participated in the bilingual/multilingual education movement prompted by the European Commission in the late 90s (see European Commission publications 1995, 2003, 2008; Eurydice Network 2006). CLIL has a dual educational focus with the aim of developing language skills and disciplinary content knowledge. Alongside these two general objectives CLIL also supports a range of additional objectives such as: "…cultural awareness, cognitive advantages, deeper content learning, internalization, self-confidence, motivation, pluriliteracy, learner autonomy, and others." (Dalton-Puffer & Smit, 2013 p. 547). For benefits of CLIL see Lasagabaster (2008) and Várkuti (2012). The primary features of CLIL can be summarized as follows:

- CLIL has a dual educational focus with an objective of helping learners acquire both language skills and disciplinary content knowledge.
- CLIL implementations do not exclusively focus on language or academic skills but also aim to develop cognitive and general life skills which learners can transfer and use in similar situations.
- CLIL approach requires efficient use of instructional techniques to support both language and disciplinary content learning.

- CLIL practices aim at providing learners with a naturalistic learning environment that could enable authentic language use.

CLIL bears close similarities with other L2 education approaches, and is often confused with content-based instruction (CBI) and immersion programs (French immersion), which are widely used in North American contexts. Although CBI is used in diverse foreign language settings around the world, the approach was originally conceived: a) to give extra support to non-native university students on the L2, which is used as the medium of instruction at the university they attend to (Sheltered Model); b) or to prepare children (foreign pupils or immigrant children) for mainstreaming (Adjunct Model) (Richards & Rodgers, 2014). Immersion programs on the other hand have been implemented in bilingual educational contexts in which learners' second language (L2) is used as the medium of classroom instruction (see Lasagabaster, 2009 for similarities and differences between CLIL and immersion programs).

For the last decade, the significant growth in the number of CLIL implementations in diverse educational settings across continents has generated networks of information-sharing opportunities. This increase in CLIL activities and transnational interaction in both professional and research planes contributed to the improvement of practical and pedagogical CLIL issues (see Dalton-Puffer & Smit 2013). These dynamic activity networks have encouraged CLIL practitioners to reflect on their teaching and collaborate with other stakeholders and researchers about their experiences. The setbacks encountered by CLIL practitioners and the outcomes of classroom-based case studies have provided the CLIL community with invaluable practical information and helped them to maintain an up-to-date research agenda (Coyle, Hood, & Marsh 2010).

For the last decade various studies have investigated CLIL practices in some EU states and other countries. The areas researches have looked into in these CLIL studies can be summarized as follows:

- Several CLIL research studies attempted to compare the learning outcomes obtained from CLIL practices with regular non-content foreign language classes, especially in terms of foreign language learning achievement (e.g. Järvinen, 2010; Llinares & Whittaker, 2010; Lorenzo & Moore, 2010; Yamano, 2013).
- CLIL practices were also compared with subject lessons and examined in terms of disciplinary content and language learning outcomes (Gabillon & Ailincai 2013).
- Some research studies attempted to identify differences between weak and strong versions of CLIL practices as regards their efficacy (Ikeda, 2013).
- Some other studies examined interaction patterns (Dalton-Puffer & Smit, 2013), learner and teacher exchanges in CLIL classrooms (Gabillon & Ailincai 2013, 2015b).
- A number of research activities also investigated learner and teacher needs (Ruiz-Garrido, & Fortanet Gómez, 2009).
- Although some research studies attempted to develop contextualized CLIL pedagogy or teaching methodologies (Vázquez & Gaustad, 2013), so far only

a few CLIL research studies attempted to establish a theoretical framework for CLIL (e.g. Gabillon & Ailincai 2015b).

Despite the wide international acceptance of the CLIL approach, its theoretical frame is not clearly developed (Dalton-Puffer, 2011). Lasagabaster (2008) stated that 2006 Eurydice Survey, which surveyed CLIL practices in 30 European countries, found out that different labels were used to describe the CLIL concept. Lasagabaster (2008) listed some of the terms which have been interchangeably used with the CLIL label as follows: content-based language instruction, content-enhanced teaching, integration of content and language, theme-based language teaching, content infused language teaching, foreign language medium instruction, bilingual integration of language and disciplines, learning through an additional language, foreign languages across the curriculum, or learning with languages, and so forth (Lasagabaster 2008 p. 32).

In short, CLIL practices employ diverse instructional implementations depending on the institutional expectations, curriculum options, teachers' pedagogical orientations, learners' age and language levels and so forth. Often these variations in the implementation of CLIL practices are described as different models. For instance Ball (2009) situated CLIL practices within the field of bilingual education and presented them on a continuum as regards the changing degree of emphasis given on content-learning. He then labeled the opposing ends as 'strong version' (complete immersion programs) and 'weak version' (language classes with focus on content) of CLIL (Ball, 2009, Ikeda, 2013) (see Figure 1. for the continuum proposed by Ball, 2009).

Strong version				Weak version
+	+	+	+	+
Total Immersion	Partial immersion	Subject courses	Language classes based on thematic units	Language classes with greater use of content

Figure 1: CLIL models described by Ball (2009)

Coyle (2005) also viewed different CLIL implementations as distinct models and interpreted these variations in CLIL implementations as 'the flexibility of CLIL'. She stated that CLIL employs a flexible context-specific approach in which contextual factors influence the development of different CLIL models. She maintained that this flexibility in CLIL implementation in return impacts the learning focus and the outcomes. Coyle (2005) labeled different CLIL models as follows:

- Subject/topic syllabus: This approach involves teaching a subject in the target language to explore the subject from a different perspective (e.g. Geography through the medium of an L2).
- Cross curricular projects: This approach requires both language teachers and subject teachers to plan together to teach different aspects of the same topic.
- Content/theme-based approach: This approach is based on a comparative study of a theme to see the difference of the same concept in different countries/cultures (e.g. the concept of home in an African country compared to a western country).

- Integrated curriculum: This approach involves re-conceptualization of the curriculum in an integrated way. In a CLIL class the learners might study a concept in a foreign language from different perspectives (e.g. 'water' can be investigated from scientific, geographical, historical perspectives etc.).
- Project-based approach: In project based learning identical topics (e.g. global warming) are studied by learners in different countries and the outcomes of the research projects can be compared by the learners.

Coyle's (2005) topic or project planning framework '4Cs curriculum' is one of the frameworks which has received wide acceptance by CLIL practitioners. This practical framework contains four guiding principles upon which teachers can build a CLIL program. Coyle's (2005) 4 Cs curriculum framework promises to ensure the quality in terms of guidance for: a) content: progression in knowledge and skills; b) communication: interaction and language use for learning; c) cognition: cognitive engagement, thinking and understanding; and d) culture: self and other awareness/citizenship. However, although this framework provides some practical guidance concerning CLIL implementation, it lacks a coherent theoretical framework that points to the key pedagogical issues specific to CLIL.

In order to provide teachers with some help, a number of practical guidelines have been proposed by experts. However, many of these guidelines answer only certain practical survival needs rather than providing teachers with deeper understanding of pertinent pedagogical issues. In brief, not having sufficient pedagogical guidance and a clear theoretical framework causes many CLIL teachers to set out their CLIL task with insufficient professional knowledge. The majority of these CLIL practitioners use curricular guidelines, institutional/ educational policies, and pragmatic pedagogies to guide them in their CLIL experience without having clear understanding of the underlying principles on which CLIL is based. Pavon Vazquez and Rubio's study indicated that not having a comprehensible pedagogical and theoretical framework might result in pedagogical misperceptions and operational uncertainties in CLIL implementations (see Pavon Vazquez & Rubio, 2010). Besides, integrating language learning with content-learning requires considerable pedagogical and procedural changes in the way the teachers teach. In order not to cause teachers to feel ill-equipped and uncertain in their teaching, these pedagogical and operational differences need to be explained clearly. Thus theoretical assumptions and pedagogical issues are recommended to be elucidated from the beginning.

CLIL belongs to a family of foreign language approaches which are grouped under Competency-Based Language Teaching (CBLT). Communicative language teaching (CLT), action-based/oriented approach (ABA or AOA), task-based instruction (TBI) and project-based learning (PBL) are the other contemporary approaches, which belong to the same group (Adler & Milne, 1997; Lier, 2007) (See Figure 2). From the CBLT perspective successful language performance and skill acquisition depend upon repeated opportunities of practice (Richards & Rogers 2014). This group of foreign language learning approaches are recommended by Council of Europe publications such as the Common European Framework of Reference (CEFR) for Languages (CEFR Council of Europe, 2001, see also Richards & Rodgers, 2014). The learning approaches, which are part of CBLT, are complementary to one another and consider foreign language learning as compiling skills (language, life, academic and cognitive skills) through integrating sets of behaviors that are learned through repeated practice.
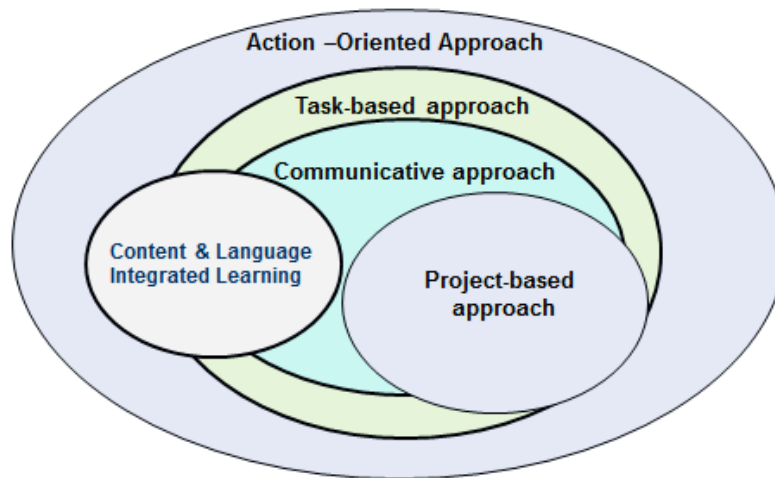
Competency-Based Approaches

Figure 2: Competency-based approaches

CLT, ABA or AOA, TBI, PBL and CLIL are based on the following principles of foreign language learning (CEFR, Council of Europe, 2001):

- Learners' cognitive, emotional and volitional resources are taken into account.
- Learning takes place through tasks which are purposeful actions with a specific goal and are not exclusively language related.
- Language is used as a tool for learning.
- Learning activities are open ended and complex tasks that require a variety of knowledge and skills.
- Learners/language users are viewed as social agents (social actors) who are responsible for their own learning.
- The aim is to build in sets of skills (language, life, academic and cognitive skills) such as:
  a) communicative competence which comprises linguistic, sociolinguistic and pragmatic competences;
  b) Individual and general skills such as knowledge (savoir), know-how skills (savoir faire), existential skills (savoir-être), and ability to learn (savoir-apprendre).

Auerbach (1986) summarized the key features of CBLT as follows:
- A focus on successful functioning in society: The major aim of learning is to build in skills that enable learners to cope with the demands of society autonomously.
- A focus on life skills: Auerbach (1986) describes this feature as '…rather than teaching language in isolation' teaching language using concrete tasks.
- Task or performance-centered orientation: This feature emphasizes the importance of what learners can do (overt behaviors) rather than ability to talk 'about language'.
- Modularized instruction: language teaching is broken into sub-objectives to allow both learners and teachers to get a clear sense of progress.

- Outcomes which are made explicit a priori: Outcomes are specified in terms of behavioral objectives and agreed upon by both by learners and teachers.
- Continuous and ongoing assessment; learners' skill levels are pre-and post-tested and they are expected to work until they master the skills in question.
- Demonstrated mastery of performance objectives: assessment is based on the ability to demonstrate pre-specified behaviors rather than measuring learners' language ability via paper-and-pencil tests.
- Individualized student-centered instruction: The curriculum is designed taking into account learners' prior knowledge and individual needs (Auerbach, 1986 pp. 414-415).

The key features of CBLT conform with the ideas conveyed within the following theories: a) SC theories of learning (learning through activity, tasks, mediation and scaffolding) (Brunner, 1978; Engeström, 1987; Lantolf, 2002, 2006; Leontiev, 1974, 1978; Wood, Brunner & Ross, 1976; Vygotsky 1978); b) interactionist theory of SLA (noticing hypothesis, negotiation of meaning, output hypothesis) (Long 1996; Swain, 1993, 2001); and c) skill and competency-based learning theories (Auerbach, 1986; Findley & Nathan, 1980).

Sociocultural (SC) perspective and CLIL

For the last two decades there has been a growing interest in SC theories in foreign/second language learning. Foreign language specialists that take an SC perspective consider language learning as a social activity in which language operates as a tool for thought (Lantolf, 2002, 2006; Mitchell & Myles, 2004). According to Vygotsky (1978) optimal cognitive development is mediated through interacting with others and social artifacts during a social activity. In other words, from this SC perspective, L2 learning is viewed as a socially constructed activity which is mediated through face-to-face interaction and social artifacts. In this SC perspective 'mediation (Vygotsky, 1978)', 'scaffolding (Brunner et al, 1976), 'help' or 'guidance' is considered crucial. Vygotsky's ZPD refers to the difference between what a learner is capable of doing without guidance and what s/he is capable of doing with guidance. Mitchel and Myles (2004), relating to the concept of ZPD, explained that the learner could not obtain a successful outcome if s/he functions only on his/her own. They claim that the learner could only achieve the desired learning outcome if s/he receives scaffolded assistance.

The SC theory considers all human made material and objects as artifacts. Swain, Kinnear and Steinman (2011) claim that all artifacts, such as symbolic (e.g. language) and material (e.g. books) can become tools for mediation. Swain et al (2011) assert that all sort of human mental activity is mediated through individuals' interactions with these social artifacts (symbolic and material world) around them. The role of artifacts in mediating learning is clearly explained and theorized in the activity theory (AT), which was developed as an extension of Vygotsky's SC theory (Leontiev, 1974, 1978; Engeström, 1987).

Learning with the help of mediation, social artifacts, collaboration, and real life tasks in naturalistic learning environments constitutes the core elements of SC theories of learning, CBLT and CLIL. Table 1 provides a summary of the key features shared by SC theories, CBL, and CLIL (see Table 1).

	SC perspective	CBLT	CLIL
Learning	Social activity	Real-life/social activity	Real-life/social activity
	Through the use of social artifacts	Through the use of social artifacts	Through the use of social artifacts
		Compilation of life/academic skills	Compilation of life/academic skills
	Compilation of life-skills		
	Interpersonal & intrapersonal	Social & Individual/cognitive	Social & Individual/cognitive
	Through mediation/ scaffolding	Through mediation/ scaffolding	Through mediation/ scaffolding
Language	Social artefact/tool for mediation	Tool for learning & Objective of learning	Tool for learning & Objective of learning
		Authentic language use	Authentic language use
Learners	Social agents	Social agents	Social agents
Tasks	Real-life	Real-life	Real-life
	Goal-directed	Goal-directed	Goal-directed
	Complex and open-ended	Complex and open-ended	Complex and open-ended
Skills	Social/cognitive	Social/cognitive	Social/cognitive
Interaction	Collaborative interaction with others and social artifacts	Face-to-face in pairs/groups	Face-to-face in pairs/groups
		Interaction with real life & learning materials	Interaction with real life & learning materials

Table 1: Some common features shared by SC theories of learning, CBLT, and CLIL.

CLIL studies carried out by the authors

We have been doing CLIL research since 2012, in a primary school context in French Polynesia (Gabillon & Ailincai, 2015a). The CLIL experience described in this paper is based on the principles of an SC framework and competency-based language teaching (Gabillon & Ailincai 2015b). In this paper we concisely describe two classroom-based experimental CLIL studies that we carried out in two public schools located in Tahiti, French Polynesia. Our CLIL experiments involved 9-10 year old elementary school pupils and the classes were composed of small groups of 10-11 children. These experimental sessions were short lessons of about 25-30 minutes in which English was used as the medium of instruction. The corpus/data for our studies were collected via observations and video recordings and discourse analysis was used as the major data analysis method. The classroom exchanges, which we recorded, were later transcribed and the data were then coded and analyzed focusing on the phenomenon that was investigated. The analyzed data were presented using both qualitative comprehensive methods and descriptive statistics (e.g. presentation of percentages, frequencies using histograms etc.).

Our first CLIL study took place between 2012 and 2013. The aim of our first experimental study was to: investigate if CLIL was possible with breakthrough level young learners; and to explore if there were observable differences between a CLIL science lesson (in L2 which was in English) and a regular science lesson (in L1 which was French).

The results obtained from this study indicated that CLIL is possible with beginner level young learners but required the use of: a) language simplifications; b) careful

scaffolding techniques that could enable gradual progression of teacher-learner mediated activity to peer-mediated activity patterns; c) naturalistic learning situations d) artifacts and gestures); and d) collaborative interaction which could enable lower affective filters.

Following the results obtained from our first study we designed a second study which investigated the role played by artifacts and gestures in socially mediated CLIL lessons with beginner level learners. Thus for this study we designed CLIL lessons that used socially mediated activity (SMA) designs to teach science lessons using science experiments. In these science experiments we aimed at creating naturalistic learning settings which could enable the use of sensory input (e.g. seeing, touching, smelling etc.). In this science laboratory setting we were able to make use of a variety of artifacts available for immediate use both by the learners and the teachers. During the study we observed that the use of artifacts enabled both the teachers and the learners to mediate learning and improve the length and the quality of the collaborative dialogue. The activities also provided the learners with hands-on experience and helped them to make meaning from direct experience which also supported both language and disciplinary content learning.

We analyzed the data gathered using discourse analysis. We split the coded data according to the data-segmenting model offered by Kerbrat-Orecchioni (1998). We also applied Paul Grice's (Grice, Cole, & Morgan, 1975) conversational maxims to evaluate conversational quality of the exchanges. During the analysis, we examined the transcribed classroom discourse and video recordings as regards the quality of language and disciplinary content, the use and the role of extra-linguistic elements, and other observable social aspects of the exchanges used. Our data analysis clearly suggested that the use of an SMA framework: a) enabled the use of scaffolding via artifacts and gestures; b) extended the length of dialogues/classroom exchanges; and c) improved the quality of the exchanges.

The outcomes of this second study indicated that without the use of an SMA design, which enabled a naturalistic learning environment with the use of accessible artifacts, the majority of the exchanges would have been truncated exchanges with constant communication breaks. In these classroom tasks, which used an SMA framework, the learners were able to communicate in the target language and carry out the activities naturally despite their low level of English. This framework allowed the construction of new concepts using collective mediation (both teacher and learner) with the help of artifacts and gestures, and collaborative interaction.

Socially Mediated Activity (SMA) framework for CLIL

In the light of the results obtained from our CLIL experiences we, recommend the use of an SMA framework for CLIL implementations which target young learners. The following table summarizes the principles that we used in our SMA framework (see Table 2):

Socially Mediated Activity (SMA) Framework	
Collective mediation	• SMA paradigms view learning as an active and constructive process where learners collectively construct new information through collaborative interaction and joint attention
Joint attention	• SMA framework uses goal-directed activities which require learners to work together to fulfill tasks
Collaborative interaction	• SMA framework encourages natural face-to-face pair/group interactions. This type of collaborative interaction uses language as a means to exchange information and construct knowledge
Social artifacts & gestures	• SMA design enables the use of artifacts and gestures to mediate learning
Experiential learning	• SMA framework provides learners with hands-on activities to enable learning through direct experience (e.g. laboratory experience, gardening etc.)
Naturalistic learning environment	• SMA framework allows learning to take place in naturalistic learning settings (e.g. laboratory experiments in labs, gardening in the garden etc.)
Active involvement	• SMA framework uses activities which necessitate each individual learner's active participation to complete tasks

Table 2: Socially mediated activity (SMA) framework for CLIL practices designed for young learners

Conclusion

Since January 2015 our CLIL project has become part of two larger projects which aim at investigating multilingual practices at French Polynesian primary schools. The first project involves the ensemble of French Polynesian primary schools and intends to build a corpus of classroom exchanges. Our part in this research project consists in gathering data from CLIL practices and regular English classrooms. The second project is an experimental project which will be launched in August 2015 and will involve experimenting with our SMA framework in a multilingual context using Tahitian or English as a medium for CLIL practices in a state primary school, in Tahiti.

CLIL practices which take place in diverse educational contexts have a great deal to reveal. In order to have a better understanding of CLIL practices researchers need to look into classroom exchanges. We believe that discourse analysis is an appropriate method to scrutinize and reflect upon events taking place in CLIL classes. Working with audio or video recordings of authentic classroom interactions; looking into verbal, non-verbal and other social aspects of classroom actions; using systematic methodological processes and careful discourse analysis methods, would enable researchers to develop well-informed theories and models to improve CLIL practices.

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