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Content-and-Language Integrated Learning: From Practice to Principles?

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This article surveys recent work on *content-and-language integrated learning* (CLIL). Related to both content-based instruction and immersion education by virtue of its dual focus on language and content, CLIL is here understood as an educational model for contexts where the classroom provides the only site for learners' interaction in the target language. That is, CLIL is about either foreign languages or lingua francas. The discussion foregrounds a prototypical CLIL context (Europe) but also refers to work done elsewhere. The first part of the discussion focuses on policy issues, describing how CLIL practice operates in a tension between grassroots decisions and higher order policymaking, an area where European multi- and plurilingual policies and the strong impact of English as a lingua franca play a particularly interesting role. The latter is, of course, of definite relevance also in other parts of the world. The second part of the article synthesizes research on learning outcomes in CLIL. Here, the absence of standardized content testing means that the main focus is on language-learning outcomes. The third section deals with classroom-based CLIL research and participants' use of their language resources for learning and teaching, including such diverse perspectives as discourse pragmatics, speech acts, academic language functions, and genre. The final part of the article discusses theoretical underpinnings of CLIL, delineating their current state of elaboration as applied linguistic research in the area is gaining momentum.

Forms of instruction that combine content teaching and language teaching are not a new topic in the *Annual Review of Applied Linguistics* (see Crandall, 1992; Snow, 1998; Spanos, 1989; Stoller, 2004). Viewing these reports as a series, one notes a development from case reports and program descriptions to more general research questions, more classroom-based research, and an increasingly international perspective. This article will further develop this international perspective with a specific but not exclusive focus on content-and-language integrated learning (CLIL) research conducted in Europe over the last 5 or 6 years. Evidence for the global interest in CLIL can be gleaned from the

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numerous activities in this area: the establishment of an *Association Internationale de Linguistique Appliquée* research network on CLIL and immersion classrooms for the 2006–2011 period (www.ichm.org/clil/), a symposium at *American Association of Applied Linguistics conference* 2010 organized by Roy Lyster, the recent foundation of an association for CLIL at tertiary level (ICLHE—Integrating Content and Language in Higher Education; www.iclhe.org), a biennial series of CLIL conferences in Europe since 2004 (e.g., www.clilconsortium.jyu.fi/), the foundation of the *Latin American Journal of Content & Language Integrated Learning,* a new series of conferences in Latin America (www.clilsymposium.org), and many more.

CLIL: CHARACTERISTICS AND CONTRASTS

Widely advertised as a "dual-focused approach" that gives equal attention to language and content (e.g., Mehisto, Marsh, & Frigols, 2008, p. 9), CLIL can be described as an educational approach where curricular content is taught through the medium of a foreign language, typically to students participating in some form of mainstream education at the primary, secondary, or tertiary level.

Although the first "L" in CLIL is meant to stand for any language, it would be an extreme case of denial to claim that this is also the case in reality. CLIL languages tend to be recruited from a small group of prestigious languages, and outside the English-speaking countries, the prevalence of English as CLIL medium is overwhelming (see Eurydice Network, 2006; Fernández et al., 2008; Lim & Low, 2009). Therefore, most of the time in this article, CLIL effectively means CEIL, or content-and-English integrated learning.

Without a doubt, there are many characteristics that CLIL shares with other types of bilingual education, such as content-based instruction (CBI) and immersion education, which have been widely adopted in North American contexts (Brinton, Snow, & Wesche 1989/2008; Johnson & Swain, 1997; Lyster, 2007; Stoller, 2004). In fact, whether a concrete program is referred to as immersion or CLIL often depends as much on its cultural and political frame of reference as on the actual characteristics of the program. The following points exemplify what appears to be typical of CLIL programs in Europe, South America, and many parts of Asia (see also Lasagabaster & Sierra, 2009):

- CLIL is about using a foreign language or a lingua franca, not a second language (L2). That is, the language of instruction is one that students will mainly encounter in the classroom, given that it is not regularly used in the wider society they live in.
- The dominant CLIL language is English, reflecting the fact that a command of English as an additional language is increasingly regarded as a key literacy feature worldwide.
- CLIL also implies that teachers will normally be nonnative speakers of the target language. They are not, in most cases, foreign language experts, but instead content experts, because "classroom content is not so much taken from everyday life or the general content of the target

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language culture but rather from content subjects, from academic/scientific disciplines or from the professions" (Wolff, 2007, pp. 15–16).

- This means that CLIL lessons are usually timetabled as content lessons (e.g., biology, music, geography, mechanical engineering), while the target language normally continues as a subject in its own right in the shape of foreign language lessons taught by language specialists.
- In CLIL programs typically less than 50% of the curriculum is taught in the target language.
- Furthermore, CLIL is usually implemented once learners have already acquired literacy skills in their first language (L1), which is more often at the secondary than the primary level.

In short, CLIL could be interpreted as a foreign language enrichment measure packaged into content teaching.

LANGUAGE POLICY ISSUES

The global spread of CLIL, the pace of which "has surprised even its most ardent advocates" (Maljers, Marsh, & Wolff, 2007, p. 7) suggests looking into language policy in order to understand the driving forces behind it. As it happens, a recent conceptual reorientation in the study of language policy, expanding the view beyond deliberate central planning toward language practices and beliefs (Shohamy, 2006; Spolsky, 2004), provides an excellent foil for this undertaking. In most places, the implementation of CLIL has been fuelled from two directions: high-level policymaking and grass-roots actions, with the latter dovetailing parental and teacher choices. What we see above all is individuals reacting to what they rightly perceive as major shifts in society and economic life, with both becoming increasingly international, requiring ever better educated employees who know certain languages that are considered crucial in the job market (e.g., Ferguson, 2006). Parents believe that CLIL promises their children an edge in the competition for employment (Li, 2002), and teachers often take the initiative, adapting their language practices to teaching through the medium of English (e.g., Dalton-Puffer, Hüttner, Jexenflicker, Schindelegger, & Smit, 2008; Maljers et al. 2007). On the other end of the spectrum, high-level political agents, some of them supra-national, also began to recognize these advantages and have designed their language management activities accordingly. In the following I will mainly use Europe as a showcase, but analogous processes can be observed in Latin American and Chinese contexts, among others (e.g., *Latin American Journal of Content and Language Integrated Learning*; Li, 2002; Lim & Low, 2009; McDougald, 2009; Tollefson & Tsui, 2004; Tsui & Tollefson, 2007).

On the level of European language policy, CLIL has been featured in a series of declarations (European Commission, 1995, 2003, 2008) and has even been invested with "a major contribution to make to the Union's language learning goals" (European Commission, 2003, p. 8). These language-learning goals aim at creating multilingual citizens, which is not surprising given the extent of

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linguistic diversity of the European Union with its 23 official languages spoken by populations exhibiting a mostly monolingual habitus.

> The European Union actively encourages its citizens to learn other European languages, both for reasons of professional and personal mobility within its single market, and as a force for cross-cultural contacts and mutual understanding. . . . The ability to understand and communicate in more than one language . . . is a desirable life-skill for all European citizens. Learning and speaking other languages . . . improves cognitive skills and strengthens learners' mother tongue skills; it enables us to take advantage of the freedom to work or study in another Member State. ("A Guide to Languages in the European Union," 2008)

Despite CLIL being cast in the role of an important language enrichment measure, precise learning goals and objectives are largely missing. Although a series of transnational expert groups has translated the high-level claims into conceptualizations, curricular guidelines, and model materials (e.g., www.clilcompendium.com, www.ccn-clil.eu, www.clilconsortium.jyu.fi, http://archive.ecml.at/mtp2/CLILmatrix/), few of the 27 national education systems have actually responded with substantial investments into CLIL implementation, teacher education, and research, leaving the impetus to the grassroots stakeholders (see Eurydice Network, 2006). Spain and the Netherlands are exceptions in this respect: in Spain, numerous research and development projects are being conducted (Eurydice Network, 2006; e.g., Escobar Urmeneta, 2010; Fernández Fontecha, 2009; Lasagabaster & Ruiz de Zarobe, 2010; Lorenzo, Casal, & Moore, 2005). In the Netherlands, a national accreditation system for CLIL schools has established explicit quality parameters and a supply of teacher and school development measures (www.europeesplatform.nl).

The situation in Asia is somewhat different because habitually monolingual populations and states are complemented by "riotously multilingual countries" (Bruthiaux, 2009, p. 124), while at the same time there seems generally little political pressure to deny the special role of English in the concert of languages in the 21st century. Association of Southeast Asian Nations, for instance, proclaimed English as its working language without much perceptible debate, a decision unthinkable in the European Union. Language and education policies in Latin America are different again, but reports on CLIL-related issues have only recently started to become accessible (e.g., Fernández et al., 2008; McDougald, 2009; Pistorio, 2009).

What appears to be shared by stakeholders across continents and circumstances is (a) the belief in the benefits of equipping every citizen with a knowledge of English and (b) the belief that CLIL is the way to transcend the perceived weaknesses of traditional foreign language teaching. Research is therefore called upon to verify in how far CLIL can fulfill these and other expectations (e.g., regarding the cognitive advantages mentioned in the policy quotation mentioned earlier), and I will return to these issues in the following sections.

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LEARNING OUTCOMES

Considering that CLIL has even been cast in the role of "a catalyst for change in language education" (Marsh & Frigols, 2007, p. 33), it is not surprising that most of the research on outcomes is in the area of attainment in the CLIL language. In this regard it is important to note that the standard of comparison in such studies are not native speakers of the medium of instruction, but learners studying the target language in traditional foreign language classes, often attending the same school as the CLIL students and usually referred to as mainstream or non-CLIL students.

Given the fact that CLIL students nearly always continue with their regular foreign language program alongside their CLIL content lessons and thus have a time advantage over their peers, it is to be expected that their foreign language test scores surpass those of the mainstream learners. This expectation is clearly confirmed by recently published surveys (Admiraal, Westhoff, & de Bot, 2006; Lasagabaster, 2008; Lorenzo et al., 2005; Ruiz de Zarobe, 2008, 2010; Zydatiß, 2007), which deal with respondents of varying ages (approximately 10–16 years). Even so, the question of how much and in what respect CLIL students are better remains of interest, as does the question of why.

Studies concur that CLIL students' receptive and productive lexicon is larger overall, contains more words from lower frequency bands, has a wider stylistic range, and is used more appropriately (e.g., Jexenflicker & Dalton-Puffer, 2010; Lo & Murphy, 2010; Ruiz de Zarobe, 2010; Zydatiß, 2007), with statistical comparisons uniformly showing large effect sizes of CLIL instruction. A simple explanation that would see CLIL as the sole cause of this is, however, undercut by other research results. The longitudinal study ($N = 1{,}305$) by Admiraal et al. (2006) showed CLIL students to already have better entry-level receptive vocabulary scores (see also Lo & Murphy, 2010), an advantage that remained stable across 4 years rather than increasing. One might have expected a faster growth rate for CLIL students, as has indeed been found by Lo and Murphy (2010) for their Hong Kong immersion learners. These authors also argued that the specific advantage of CLIL learners seemed to lie in academic vocabulary and words from the 5,000+ frequency range, attributing this to the special learning conditions of subject and content integration (see also Zydatiß, 2007). A further perspective on possible causalities was added by Sylvén's results from Sweden (2004; $N = 363$), showing that out-of-school reading behavior correlated more strongly with vocabulary scores than being in a CLIL class.

The skill that has recently received increased attention is writing, not least because the comparisons between CLIL and non-CLIL learners are more confounded in this area than in the other competence areas. Several studies comparing CLIL and non-CLIL writing (e.g., Jexenflicker & Dalton-Puffer, 2010; Ruiz de Zarobe, 2010) concur in finding that CLIL students had at their disposal a wider range not only of lexical but also morphosyntactic resources, which they deployed in more elaborate and more complex structures. What was not to be assumed outright given the focus on meaning (and not form) in CLIL classrooms is the fact that CLIL students also show a higher degree of accuracy, not only in inflectional affixation and tense use but also in spelling. The greater pragmatic

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awareness of CLIL students was shown in their better fulfillment of the communicative intentions of writing tasks. There were, however, dimensions of writing on which CLIL experience seemed to have little or no effect. These were the dimensions that reach beyond the sentence level (i.e., cohesion and coherence, discourse structuring, paragraphing, register awareness, genre, and style). With regard to the latter, significant insights have also been gained by comparing CLIL students' L2 writing with their subject writing in the L1 (Coetzee-Lachmann, 2009; Järvinen, 2010; Llinares & Whittaker, 2010; Lorenzo & Moore, 2010; Vollmer, Heine, Troschke, Coetzee, & Küttel, 2006), which, perhaps surprisingly, has not been found to necessarily surpass CLIL-L2 writing in these respects. Interesting practical as well as theoretical implications arise from this: Might we be justified in postulating some kind of general level of writing development that has an impact on how learners deal with a writing task independently of whether it is in their L1 or in L2? This is an issue that needs to be developed further with reference to current discussions on pluriliteracies (e.g., Prinsloo & Baynham, 2008).[1]

A note on morphosyntax should be added at this point: Although some studies showed that CLIL students outperformed their peers in some morphosyntactic components, such as sentence complexity, affixal inflection (Dalton-Puffer, 2007b, p. 281), or the use of placeholders, other properties, notably the use of null subjects, negation, and suppletive forms, seemed to remain unaffected (Martínez Adrián & Gutiérrez Mangado, 2009; Villarreal & García Mayo, 2009). Given the high variability of foreign language exposure between different CLIL programs, the critical amount of CLIL necessary to produce the automatization of low-level morphosyntactic processes remains an open question.

Finally, the area where a difference between CLIL students and mainstream learners is most noticeable is their spontaneous oral production. All the quantitative surveys so far (Admiraal et al., 2006; Lasagabaster, 2008; Ruiz de Zarobe, 2008; Zydatiß, 2007) show CLIL students to be ahead on all dimensions of their respective speaking constructs, a result that was underscored by self-reports obtained in student interviews where learners consistently mentioned greater fluency and speaking confidence (Dalton-Puffer et al., 2008). A range of studies (e.g., Hüttner & Rieder-Bünemann, 2010; Maillat, 2010; Mewald, 2007; Moore, 2009) concur in ascribing CLIL students greater flexibility and listener-orientedness, and they also appeared more self-assured in conveying their intended meanings in the L2 even if they momentarily lacked linguistic resources (see also Nikula, 2008). CLIL students also demonstrated more adeptness at dealing with the requirements of spontaneous conversational interaction and were more adept at implementing macro-level structuring devices as well as micro-level features like maintaining tense consistency in narratives. Regarding the phonetic component, however, the effects of CLIL instruction seem to be altogether more moderate (Admiraal et al., 2006; Gallardo del Puerto, García Lecumberri, & Gómez Lacabex, 2009). Overall the evidence is robust enough to warrant the verdict that CLIL definitely fosters spontaneous L2 speaking skills, with pronunciation being the least affected of the speaking dimensions.

Observations from several studies cited earlier feed into a pool of evidence suggesting that CLIL students are particularly strong in strategic competence,

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allowing them to successfully convey content notions at an early stage even though their linguistic resources are still limited (see also Lorenzo & Moore, 2010; Moore, 2009).[2] However, this does not mean that there were no high scores among mainstream learners. Rather, CLIL classes showed a significantly broader band of students just below the top level. In other words, people with special language-learning aptitude may reach high proficiency levels via traditional foreign language classes, but CLIL significantly enhances the language skills of a broad group of students whose foreign language talents or interests are average (e.g., Mewald, 2007).

I will now turn to the question of content learning. It is a common concern of educators and parents how being taught in the foreign language will affect learners' knowledge, skills, and understanding of the subject. Because the medium of learning is less perfectly known than the L1, it is feared that this will lead to reduced subject competence as a result of either imperfect understanding or the fact that teachers preempt this problem and simplify content (see Hajer, 2000). Research on the issue has been difficult to carry out because relatively few countries conduct standardized testing in science and social studies subjects. Thus ready-made constructs of subject-specific competence in a particular area are hard to come by, making quantitative surveys and cross-country comparisons more problematic than those regarding language attainment.

Research findings on content-learning outcomes are altogether less conclusive than those on language-learning outcomes. On the positive side, some studies concur with results emerging from Canadian immersion contexts (e.g., Day & Shapson, 1996) that showed immersion students outperforming peer controls even when tested in the L1, a result that has been replicated for young CLIL mathematics learners in Belgium (van de Craen, Ceuleers, & Mondt, 2007). This, it has been claimed, may have to do with the fact that CLIL students work more persistently on tasks and show a higher tolerance of frustration, thus acquiring a higher degree of procedural competence in the subject (Vollmer et al., 2006). Additionally, Vollmer et al. also argued that linguistic problems, rather than leading to task abandonment, often prompted intensified mental construction activity (through elaborating and relating details and discovering contradictions), resulting in deeper semantic processing and better understanding of curricular concepts. This suggests that rather than being a hindrance, L2 processing actually has a strong potential for the learning of subject-specific concepts.

Critical voices, however, are beginning to make themselves heard. Until recently, such opinions have mostly been voiced in studies published in languages other than English, which makes them generally accessible only in condensed form (Lim Falk, 2008; Swedish studies reported in Sylvén, 2004; several Turkish publications briefly summarized in Kiraz, Güneyli, Baysen, Gündüz, & Baysen, 2010). One shared observation seems to be reduced active student participation in the classroom (as was also self-reported by students in interviews; Dalton-Puffer et al., 2008), which may lead to less learning. In a study by Lim Falk (2008), CLIL students used less relevant subject-based language in speech and writing than did the control students. Lim Falk argued that in content subjects, "English is an obstacle, and is also considered as such" (p. 5). Airey's qualitative

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data (Airey, 2009; Airey & Linder, 2006) also showed that some students have problems describing science concepts in English. Problems with the linguistic expression of academic concepts are also reported by Walker (2010) for late-immersion secondary students in Hong Kong.[3] In Europe, there is an incipient debate that CLIL might have adverse effects on advanced L1 academic language proficiency, but no research on this is available at the moment.

Positioned between these opposing views, three studies report neither a positive nor a negative effect of CLIL regarding content learning. Admiraal et al.'s (2006) quantitative survey in the Netherlands showed CLIL students' performance in L1 university entrance exams in history and geography to be neither better nor worse than their peers'. However, Admiraal et al. warned against hasty overgeneralization because of the pioneer effect of bilingual education in the Netherlands at the time of data collection, implying that particularly motivated students and teachers might have dealt exceptionally well with a difficult challenge. Jäppinen (2005) compared three age groups of Finnish CLIL and non-CLIL mathematics learners ($N = 669$), finding weak negative effects for the youngest age group (7–9), slightly positive effects in the middle group (10–12), and zero effects for the older learners (13–15). In Switzerland, Badertscher and Bieri (2009) conducted a qualitative longitudinal study of six fourth- to sixth-grade classes, combining oral subject-knowledge interviews with classroom observation. The study is theoretically and methodologically interesting because, due to the unavailability of standardized subject tests, the authors developed a discourse-based operationalization of the learners' conceptual declarative knowledge. In addition, it is one of the very few studies examining a context where languages other than English are used as CLIL languages (in this case, German and French). Summarizing their results, Badertscher and Bieri found that CLIL had neither positive nor negative effects on the students' performance in the subject-knowledge interviews. I concur with their opinion that the intriguing question regarding content outcomes is really this: How it is possible that learners can produce equally good results even if they studied the content in an imperfectly known language? The classroom and its pedagogical and linguistic practices should hold some answers.

CLASSROOM INTERACTION AND PEDAGOGICAL PRACTICE

CLIL instruction has at times been constructed as a kind of catalyst for change in classroom pedagogies, implying that it somehow causes a shift from (traditional) teacher-centered practices to (more innovative) student-centered learning arrangements. In Duff's study of Hungarian bilingual schools in the early 1990s, the appearance of new classroom genres was indeed empirically supported (e.g., Duff, 1995); however, such an effect is by no means guaranteed. In comparative classroom observations Badertscher and Bieri (2009) found no difference in overall lesson design between their Swiss CLIL and non-CLIL content classrooms, an observation that can also be made on the basis of Dalton-Puffer's Austrian data (2007b). Furthermore, there is evidence that even suggests increased teacher orientation in CLIL teaching because CLIL teachers' limited

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L2 competence may prompt them to adhere very closely to their preparation (Dalton-Puffer et al., 2008). In the 40 Austrian CLIL lessons studied by Dalton-Puffer (2007b) this resulted in whole-class discussions narrowly kept on track. In a case study of one Finnish biology teacher, Nikula (2010) examined the differences in that teacher's interactional behavior during biology lessons conducted in L1-Finnish and L2-English. Her findings indicate that the teacher's language use in the CLIL lessons was pragmatically less varied and less subtle, a fact that was echoed in CLIL teacher interviews in terms of "being largely divested of the possibility to use humor" (Dalton-Puffer et al., 2008). On the other hand, Nikula noted that in the CLIL lessons the students had "more room for active engagement in classroom discourse than non-CLIL settings" (2010, p. 120), suggesting that the CLIL teachers' status as L2 users of English puts them on a more equal footing with the students, allowing the learners to claim a larger share of the discourse space (the same observation was made by Smit [2010] for tertiary learners). An additional dimension of the concept of discourse space is theorized by Maillat (2010), who observed that Swiss secondary students quite unexpectedly produced richer interactions in history and biology role plays conducted in L2 than those in L1. Maillat claimed that this is due to a mask effect inherent in the L2, as it allows a clear distinction between speaker and learner identities so that "the epistemic commitment of the speaker to the validity of her statements is reduced" (p. 51) because the learner's own personal beliefs are not engaged. Maillat explained that this pragmatic mask effect is unavailable in the language classroom given that the L2 functions as the focal point of learning. In sum, these studies show that CLIL classrooms differ from foreign language classrooms in some fundamental pragmatic parameters, which is of some importance in explaining the reduced foreign-language-speaking anxiety that is commonly observed in CLIL students (e.g., Dalton-Puffer et al., 2008; Maillat, 2010; Nikula, 2007) as caused by something beyond the mere lack of error correction (see later in this article about error correction).

A pragmatic stance has also been used to investigate the realization of speech acts in CLIL lessons, notably directives, due to their special frequency in classroom interaction (Dalton-Puffer, 2007b; Dalton-Puffer & Nikula, 2006; Moore, 2007). Findings show the impact of the situational context classroom in terms of a clear division between the instructional and regulative registers[4] with regard to norms of directness and indirectness: Given that questions for content are part of the core purpose of school lessons, directness is licensed in the instructional register in teacher–student and student–student interactions. In the regulative register, on the other hand, a stronger impact of the local matrix cultures emerges: A comparison of CLIL lessons from Finnish and Austrian German contexts (Dalton-Puffer & Nikula, 2006) showed an obvious difference in politeness forms (and presumably norms), with the Austrian classrooms exhibiting considerable amounts of indirectness features in teacher requests for actions (rather than for content information), whereas the Finnish requests were more direct overall. But even in a context like the Austrian one, where the students were exposed to numerous linguistic models for making polite requests in English, they had much less opportunity to produce a wide range of requests themselves.[5] That is, the use of speech acts that learners experience in CLIL

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classrooms may be far removed, pragmatically, from the linguistic contingencies in other settings, and it is clear that more research on speech acts and transfer to out-of-class settings is urgently needed.

On a more general pragmatic level, students' tendency to adopt a very informal style of speaking has been noted as well (Moore, 2007; Nikula, 2007). It is possible to argue that such a high level of informality corresponds to what Cummins (1984, 2000) called basic interpersonal conversational skills being enacted in the naturalistic environment, which would imply an understanding that students only master a rather colloquial way of using English and have no access to or awareness of more formal and more academic styles of speaking.[6] Nikula, however, interprets this fact as an indication that CLIL encourages participants to construct their roles in ways that are subtly different from the L1 content lessons. A good deal more research in different contexts is clearly needed before more general conclusions can be drawn.

Even though CLIL classrooms are widely considered as motivating, the actual commitment of participants to using the target language seems to vary enormously. Student behavior during group work has often been used as a measure in this respect, the most common observation being that students immediately switched to the L1 once they were among themselves (e.g., Canagarajah, 1995; Cromdal, 2005; Dalton-Puffer, 2007b; Tarone & Swain, 1995), a finding that was, however, not supported by Nikula's Finnish data. On the contrary, Nikula (2007) found her participants using the L2 even for social purposes, such as a student passing on greetings from one teacher to another. What can be said with some certainty is that the language choices of individual teachers have a significant impact in this regard, constituting something like house rules for the students (e.g., Dalton-Puffer, 2007b; Pessoa, Hendry, Donato, Tucker, & Lee, 2007). But apart from such local rules of use, one should also take into account the amount of CLIL in students' weekly timetables as well as the wider sociolinguistic context in terms of affecting the status of the target language.

Another important conceptual vantage point in studies of CLIL classroom discourse has been learning theories that focus on the negotiation of meaning. Most of the studies examine the language-learning potential of meaning negotiation (see Doughty & Williams, 1998), but in fact the negotiation concept provides an excellent basis for a content-and-language approach, given that school subjects are talked into being during lessons. One study that directly addresses this is Badertscher and Bieri's (2009) comparison between Swiss CLIL and mainstream teaching. Among others things, they found that (a) there are over twice as many negotiation sequences in the CLIL lessons than in the L1 lessons and (b) during CLIL lessons, teachers more reliably attended to obvious difficulties of understanding. Badertscher and Bieri interpreted these findings as constitutive for explaining the equally good learning results of the CLIL students even though they were studying through an imperfectly known language. Mariotti's (2006) study in Italy also revealed CLIL lessons to have a high rate of student-initiated negotiation sequences, an interesting partial result being that the presence of two teachers in the classroom discouraged such negotiations. Other studies (Badertscher & Bieri, 2009; Dalton-Puffer, 2007b), however, do not indicate such high rates of student-initiated negotiation sequences, although Badertscher and

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Bieri's comparison with mainstream L1 teaching did show a somewhat higher rate for the CLIL students. What has so far been overlooked in all but a few studies is the fact that it might be of great significance at what point in their CLIL careers a group's negotiation behavior is being observed, because there actually seems to be an increase over time. Badertscher and Bieri (2009) noted such an increase, an observation strongly supported by Smit's (2010) longitudinal ethnographic study of a tertiary level group, which revealed considerable growth in active student negotiating behavior combined with a clear shift of focus over time from phonetic intelligibility to coconstructing content. In other words, there are indications that the use of an L2 or lingua franca contributes to a learning group's development as a community of practice, which allows for an extension of the traditionally narrow student role. It is essential, though, to remember that transfer of insights from secondary and tertiary sectors must take account of the social and institutional differences prevailing at these levels of education.

It has also been noted that the pedagogic design of lessons (encouraging one-word answers or longer student contributions) has a strong impact on the likelihood of actual language errors and the ensuing necessity for implicit or explicit correction (Dalton-Puffer, 2007b; Pessoa et al., 2007). The two connected claims that students should be given the necessary interactional space to test their linguistic hypotheses while talking about subject content and that teachers should pay selective but explicit attention to instances of linguistic error or difficulty have become tenets that most CLIL researchers would underwrite (e.g., Pérez Vidal, 2009). In this connection, Lyster's (e.g., 1998, 2007) work on Canadian immersion classrooms has served as a foil for studies in European CLIL contexts (e.g., Dalton-Puffer, 2007b; Lochtmann, 2007; Smit, 2010), producing shared findings like teachers' preference for recasts rather than explicit correction and preference for attending to lexical rather than pronunciation or syntactic errors, as well as a largely intuitive approach to language-focused work as such (Krampitz, 2007).

Language focus can of course be understood in a broader sense than in the studies described earlier, which focused mainly on vocabulary, phonology, and sentence grammar. A recent wider focus of interest in this respect is academic language (see Chamot & O'Malley, 1994; Cummins, 1991; Mohan, Leung, & Davison, 2001) and its development via and use in CLIL lessons. The work on discourse functions such as explaining, hypothesizing, or defining (Dalton-Puffer, 2007a, 2007b; Lose, 2007; Smit, 2010) demonstrates the nonelaborate nature of student realizations of these functions, presumably encouraged by the high degree of contextualization and the informal nature of the classroom talk among familiar participants. Lose (2007) concluded that her secondary students' realization level of academic language functions clearly remained behind the level of L2 competence they demonstrated during their foreign language lessons. Teachers, though clearly capable of producing canonical realizations of these discourse functions, had no declarative knowledge concerning them and were therefore unable to attend explicitly to this issue. A study conducted by Kong (2009) in China contrasted language-trained with content-trained teachers doing science. Her findings indicate that teachers' depth of content knowledge

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reflected positively not only on the complexity of knowledge relationships co-constructed by the teacher and students but also on "the use of correspondingly complex language" (Kong, 2009, p. 254). Findings such as these thus seem to speak in favor of content-trained teachers, but these teachers' degree of L2 competence clearly remains an issue—and one that remains unsolved in many contexts.

A series of studies, conducted by Llinares and Whittaker (2009, 2010; Whittaker & Llinares, 2009) with Spanish lower-secondary students, showed that, through a carefully orchestrated progression of tasks from oral to written and the ensuing scaffolding, even beginning lower-secondary CLIL students could be guided toward taking first steps into truly subject-specific discourse. Morton's work on the same Spanish social science data (2010) demonstrated that a focus on classroom genres might be a particularly powerful instrument for promoting the development of oral and written academic literacy in CLIL learners. Although parallel work on university lectures (Dafouz, Núñez, & Sancho, 2007; Núñez Perucha & Dafouz Milne, 2007) naturally focused on aspects of lecturers' talk (such as stance, deictic pronouns, and discourse markers), the two strands concur in demonstrating that a genre focus might furnish the much sought-after analytical tool that captures content-and-language integration.[7] Even so, it is clear that much more work needs to be done conceptually and empirically across different contexts until the notions of discourse functions and genres in CLIL classrooms can be regarded as settled.

Generalizing over these and other classroom studies from different contexts (e.g., also, Bonnet, 2004; Llinares & Whittaker, 2009, 2010; Morton, 2010; Whittaker & Llinares, 2009), it can be said that language use in CLIL classrooms shows that the extent to which learners are required to verbalize complex subject matter either orally or in writing largely depends on the decisions and traditions of content-subject pedagogies. Clear differences are also visible between (national) educational cultures with regard to the emphasis on literacy practices in content teaching (central European subject didactics, for instance, seems to be particularly oracy-oriented; e.g., Dalton-Puffer, 2007b; Duff, 1995). On the whole, however, it would be fair to say that explicit attention to this aspect of content learning is rare in CLIL classrooms.

UNDERLYING ASSUMPTIONS AND THEORETICAL UNDERPINNINGS

As noted earlier, public expectations regarding CLIL center on its being efficient and effective for foreign language learning, expectations that are fueled by dissatisfaction with the outcomes of school-based foreign language learning and a somewhat stereotypical view of foreign language lessons as a series of mechanistic grammar drills. CLIL is thus believed to deliver the goods more reliably and with less pain for the learners. It is worth asking the question what assumptions lie behind such expectations.

What is at the center for stakeholders is the understanding that CLIL classrooms are an environment for naturalistic language learning, implying that the best kind of language learning proceeds painlessly, without formal instruction.

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These implicit baseline assumptions are in line with Krashen's (1985) monitor model, which continues to be the most prominent reception-based theory of language acquisition outside academic research circles. As is well known, the basic idea of the model is that if the language learner is exposed to comprehensible input, acquisition will occur, especially if the learning situation is characterized by positive emotions. The latter condition is widely thought to be fulfilled in CLIL by virtue of the fact that language mistakes are supposedly neither penalized nor corrected in CLIL classrooms.

Applied linguistic research into CLIL has, naturally, made use of a wider theoretical base than this, starting with a focus on interaction (see Long, 1996). Several studies of this kind and their diverse diagnoses regarding the extent of negotiation in CLIL classrooms were mentioned in the previous section. Another important theoretical influence has been Swain's output hypothesis (1995) and its claim that only the self-regulated production of utterances that encode learners' intended meanings forces them to actively process morphosyntactic aspects of the foreign language, thereby expanding their active linguistic repertoire and achieving deeper entrenchment of what they already know. In the CLIL context the implications of the output hypothesis have frequently served as a foil for those observed language behaviors in classrooms that appear conditioned by pedagogical practices restricting the active linguistic engagement of learners both in speech and writing. A further development has been focus on form, that is, paying attention at specific moments during the learning process to formal, lexicogrammatical aspects of language as carriers of meaning (see Doughty & Williams, 1998). An immersion-specific version of this has been formulated in Lyster's (2007) counterbalanced approach, which advocates giving equal weight to meaning focus and form focus in immersion education. Certainly with regard to Canadian immersion education, which was the prime conceptual reference point in (the beginnings of) European CLIL, we can detect a clear movement away from relying solely on the idea of the self-propelled, implicit language learner. In the CLIL scene there has been as yet little activity in this direction in the sense of doing observational (little) or experimental (none) research on form-focused activities during CLIL lessons. The observation tool for language-sensitive pedagogy of de Graaff, Koopman, Anikina, and Westhoff (2007) could serve as a good starting point for systematic study in this regard. For the time being, the definition of CLIL as a dual-focused approach has to be regarded as programmatic rather than factual, and practices that are "content-oriented but language sensitive" (Wolff, 2007, p. 17) cannot be regarded as firmly established.

An even more fundamental move away from the theorems underlying the natural approach is embodied in views of learning as contextual and socially distributed, as they are now widely accepted in education. Under these premises, human beings learn through interacting with other social beings, whereby language acts as a particularly powerful semiotic means for participating and performing in the activities and encounters of the social world.

In accord with the premises of this kind of learning theory, language itself is also conceived of as a process that is socially constructed (e.g., Lantolf, 2002; Lantolf & Thorne, 2006; Swain, 2000). As social encounters involve specific persons in specific roles at specific times and places, the context of situation

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becomes instrumental rather than coincidental in the language acquisition process and in learning in general. Content-based situations help steer learners' attention from language forms to things accomplished and meanings conveyed through language, and it may well be that it is here that the success of CLIL as a language-learning environment lies. But how far this catalyst role of CLIL will actually go and how necessary it is depend on the contingencies of individual contexts: Contrary to many people's expectations, CLIL is not a panacea.

Much CLIL research, then, while clearly following more sophisticated conceptual orientations than policy papers, still tends to share with those the position that CLIL classrooms are somehow fundamentally different from foreign language lessons. My account (section 4) has shown that there are indeed several such differences, but it must not be overlooked that both CLIL and EFL (English as a foreign language) happen via speech events called *lessons* in well-known institutions called *schools* or *universities*. What I want to underscore, then, is that CLIL classrooms are *classrooms* exhibiting the respective characteristics in terms of participant roles, goals, physical setting, temporal structure, and the like. It needs to be stressed that by virtue of these characteristics, CLIL classrooms share a great deal more with traditional language lessons than a partisan look would make one believe and that CLIL cannot therefore be expected to prepare learners for other situational contexts in any direct way.

What I would like to argue, however, is that this situation offers considerable potential. CLIL lessons are part of the learners' everyday experience of school, they take place within the same local, institutional, personal, and cultural context as all the other school lessons that CLIL learners experience. The lessons are thus well-embedded in the matrix culture of the L1 and possess a high degree of familiarity for the learners. The learners know the discourse of the classroom, and this well-established knowledge provides them with a mental schema or discourse domain for dealing with particular situations (Douglas, 2004). Over and beyond the authentic situation and the cognitively engaging material (Snow, 1998), I consider this familiarity to be a decisive asset in foreign-language CLIL. On entering target-language contexts in the so-called real world, whether they be with native speakers in the target culture or with other nonnatives in lingua franca contexts, L2 speakers are often challenged or even overwhelmed by having to attend to several demanding tasks simultaneously: trying to get hold of the ropes of the discourse, working with incomplete topic knowledge, and operating in an imperfectly known language code. Clearly, if such challenges can be simplified, the burden of the L2 learner can be lightened. As research has shown, being a topic expert significantly improves nonnative speakers' chances to successfully participate in mixed native speaker–nonnative speaker interactions (Zuengler, 1993). Learners in CLIL content classrooms are, by definition, not topic experts, but they are participating in a didactic discourse whose aim is to develop their topic knowledge rather than presuppose it. There are thus two bonuses deriving from the educational setting: the didactic nature of the interaction and the cultural familiarity with the domain of use and its rules. My claim, then, is that CLIL provides a space for language learners that is not geared specifically and exclusively to foreign language learning but at the same time is predefined and prestructured in significant ways by being instructional and

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taking place within the L1 matrix culture. This, I claim, is a significant source for the self-confident and self-evident use of the foreign language and its ultimate appropriation by many CLIL learners, which is regularly observed to be the most striking outcome of CLIL programs.

LOOKING AHEAD

Concerns with theorizing the interaction of language and content are currently becoming a focus of attention for CLIL researchers. Although the most frequently used wording tends to be that of "content and language integration," a more appropriate goal, I think, would be to transcend such an understanding that conceptualizes language and curricular content as separate reified entities and instead think of them as one process. Several of the approaches that applied linguists have embraced in doing ESL (English as a second language)/CBI and CLIL research hold a good deal of promise for such an undertaking (constructivist-contextual and sociocultural theories of learning, or systemic functional linguistics)[8] and it will be the task of the research community over the next years to build the necessary bridges to general learning theories based on ideas of discursiveness and performativity ("being doing science"). A first approximation was formulated by Gajo (2007) who suggested that "the notion of integration [of language and content] implies precise reflection on the linguistic aspect of subject knowledge and on the role of discourse in the learning process" (p. 568). I suggest that Halliday's (1993) language-based learning theory is one good starting point for this undertaking.

Apart from the concern with theory, there is a clear empirical research agenda with regard to academic language abilities and requirements, namely, identifying subject-specific language use in terms of lexicon and genres for various content areas. This should lead to clarifying what academic language skills are generally and what they are specifically by subject (the Council of Europe has recently commissioned a project attempting to do this for mother tongue education; see www.coe.int/t/dg4/linguistic/Schoollang_EN.asp). On the theoretical level, this kind of work should lead to a deeper understanding of what *cognitive academic language ability* is (Cummins, 1991). By the same token, the relationship between language for specific purposes and CLIL has to be explored further: The connection was made very clearly before the notion of CLIL saw the light of day (Widdowson, 1980), but has, to my knowledge, not been systematically pursued since then.

Further points on the research agenda are furnished by current debates around CLIL in Europe: first, the already mentioned doubts regarding possible adverse effects on L1 advanced academic language proficiency; second, the continuation (or not) of foreign language classes alongside CLIL lessons; and third, the affordances and challenges of employing native speakers as content teachers as well as CLIL teacher qualifications in general. Although all these debates have a language policy dimension, the one that returns us to the language policy issues discussed at the outset most directly is the need to determine in how far the CLIL enterprise can and does contribute to the production of multilingualism

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and/or plurilingual individuals. In pursuing this research agenda it will be vital to keep in mind the realization that conceptualizations and findings based on the global lingua franca English as a CLIL medium need to be carefully examined for their transferability to other languages.

NOTES

1 These are relevant issues also in the development of ESL learners' academic literacy (see Schleppegrell & O'Hallaron, 2011—this volume).
2 Analogous findings have been reported for immersion students (e.g. Harley, Allen, Cummins, & Swain, 1990).
3 The problematicity of this is also discussed in Schleppegrell & O'Hallaron's article (2011—this volume) on the academic language development of ESL students in the United States.
4 *Instructional register* refers to talk dedicated to the immediate purpose of instruction and informing about the content taught. *Regulative register* refers to talk designed to organize instruction and learning (Christie, 2002).
5 Analogous findings were reported in the 1990 volume by Harley et al. and were at the core of Swain's output hypothesis (e.g., Swain, 1995).
6 This is another concern that CLIL shares with academic literacy development in ESL learners (cf. Schleppegrell & O'Hallaron, 2011—this volume).
7 See Paesani (2011—this volume) for a similar trend in language-and-literature integration.
8 With regard to CBI, compare to, for example, Gibbons (2002); Mohan & Beckett (2001); and Schleppegrell, Achugar, & Orteíza (2004).

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Coyle, D., & Baetens Beardsmore, H. (Eds.). (2007). *International Journal of Bilingual Education and Bilingualism* [Special Issue on CLIL], 10.

In addition to a range of empirical studies, Coyle's introductory chapter "Towards a Connected Research Agenda for CLIL Pedagogies" (pp. 543–562) gives a good introduction into key issues and presents her influential 4Cs conceptualization of CLIL education (content, communication, cognition, culture). Another important contribution is de Graaf et al.'s "Observation tool for effective L2 pedagogy in CLIL" (pp. 603–624).

Coyle, D., Hood, P., & Marsh, D. (2010). *CLIL: Content and language integrated learning.* New York, NY: Cambridge University Press.

A comprehensive and accessible introduction to CLIL as an educational approach that covers important theoretical and pedagogical background in addition to providing sound guidelines for implementation. Manages to address both educators and scholars.

Dale, L., Van der Es, W., & Tanner, R. (2010). *CLIL skills*. Leiden, the Netherlands: University of Leiden, Expertisecentrum mtv.

This handbook combines the expertise of experienced classroom teachers and teacher educators from the Netherlands. Strong not only on activities but also featuring a well-thought out general concept and background knowledge on each topic area. It is designed not only for CLIL teacher education courses but also for self-study.

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Dalton-Puffer, C. (2007b). *Discourse in content and language integrated learning (CLIL) classrooms*. Amsterdam, the Netherlands: John Benjamins.

The book is a comprehensive study based on a corpus of 40 secondary level CLIL lessons taught in Austria, providing a detailed analysis of the discourse produced in CLIL classrooms and a discussion of its contribution to language learning processes. Topics discussed include construction of content knowledge, influence of questions on classroom interaction, classroom directives, repair work, and academic language functions.

Dalton-Puffer, C., Nikula, T., & Smit, U. (Eds.). (2010). *Language use and language learning in CLIL*. Amsterdam, the Netherlands: John Benjamins.

This is a collection of 12 empirical studies on classroom interaction as well as learning outcomes that includes a new research focus on writing in CLIL contexts. The final chapter by the editors discusses several problematic issues around CLIL that have so far remained underexposed and underdiscussed.

Hansen-Pauly, M. A., Bentner, G., Llinares, A., Morton, T., Dafouz, E., Favilli, F., Novotna, J., *et al.* (2009). *Teacher education for CLIL across contexts*. Brussels, Belgium: European Commission, Directorate General for Education and Culture. Retrieved from http://clil.uni.lu

This publication is the product of a 3-year multilateral European project involving 14 coauthors. It consists of two parts: (a) a conceptual framework developed from classroom observation and relevant research in selected areas of bilingual education and learning to scaffold curriculum development for CLIL teacher education and (b) a booklet of tasks and activities for use in teacher development.

Marsh, D., & Wolff, D. (Eds.). (2007). *Diverse contexts—converging goals. CLIL in Europe*. Frankfurt am Main, Germany: Lang.

Twenty-eight contributions from across the European Union cover classroom practice, evaluation, research, and program management. Wolff's opening chapter "CLIL: Bridging the Gap Between School and Working Life" (pp. 15–25) is an excellent first text for novices on CLIL training courses, summarizing the basic assumptions in a positive light but without undue oversimplification.

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