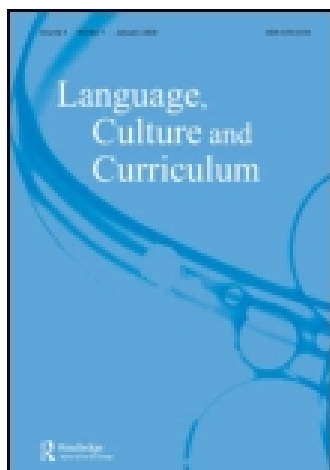


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A pluriliteracies approach to content and language integrated learning - mapping learner progressions in knowledge construction and meaning-making

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A pluriliteracies approach to content and language integrated learning – mapping learner progressions in knowledge construction and meaning-making

Oliver Meyer^{a*}, Do Coyle^b, Ana Halbach^c, Kevin Schuck^d and Teresa Ting^e

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Over the past decades content and language integrated learning (CLIL) research has predominantly focused on the language proficiency of CLIL learners. The results are very promising and show that working language skills in learners, especially reading and listening skills, can be improved through a CLIL programme. Studies focusing on subject learners are still few but they indicate that learners maintain or under certain conditions can improve their subject learning when compared to learners learning in L1. However, more recent studies have raised challenging questions concerning academic language competence which indicate that CLIL instruction may not be reaching its full potential. Unravelling the integrated approach and the inherent interrelationship of using language for progressing knowledge construction and meaning-making needs to be addressed, drawing together linguistic and pedagogic theoretical underpinnings. This article posits that CLIL can pragmatically address the growing educational malaise of *functional illiteracy*. We reason that progression along the knowledge pathway towards deeper subject understanding requires a greater command of secondary discourse, and mastery of subject-specific literacies. In traditional classrooms, content teachers do not usually focus on the quality of learners' disciplinary literacy and discourse. In language classrooms, subject-specific literacies are considered irrelevant. We suggest that if 'literacy' were at the centre of the learning agenda, regardless of subject disciplines, a fundamental shift towards deeper learning would occur. Therefore, the article addresses two fundamental issues: (i) the role of subject-specific or disciplinary literacies in CLIL and (ii) the iteration of a model building on the existing 4Cs framework, which maps literacy and language progression in CLIL contexts and serves as a guide for evolving classroom practices.

Keywords: content and language integrated learning; literacies; pluriliteracies; subject-specific literacies; mapping learner progression; academic language; integration

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Context

As content and language integrated learning (CLIL) is rapidly developing a critical and robust research profile, a deeper understanding of the complexities of integrated learning in many different contexts is emerging. CLIL research, which draws on but differs significantly from some other specific immersion settings such as in Canada, attests to the positive outcome of this approach (Cenoz, Genesee, & Gorter, 2014; Dalton-Puffer, Llinares, & Nikula, 2014). Many countries have reported learner gains, including increased motivation and advancing language competence, placing them ahead of their non-CLIL counterparts (DESI-Konsortium, 2008; Lasagabaster, 2008; Zydati, 2007). There are a number of studies indicating that the learning of content does not suffer in this process and that, in some cases, CLIL students outperform their non-CLIL counterparts (Badertscher & Bieri, 2009; Heine, 2008). Other reported benefits include improved receptive language skills (especially reading) and consistent achievement in subject learning in studies which span CLIL contexts, for example, Spain (e.g. Lasagabaster & Ruiz de Zarobe, 2010), Finland (Nikula, 2007), Belgium (Van de Craen, Ceuleers, & Mondt, 2007), Germany (Zydati, 2012) and the UK (Coyle, 2013).

However, as well as the positive findings which have accrued, taking into account a range of contextual variables, an increasingly critical research agenda is emerging. For example, some studies involving classroom observations and comparative studies that focus on learners' actual subject-specific language performance are less positive (Dalton-Puffer, 2013). We wish therefore to focus on issues associated with the aspects of 'deficit' which are emerging from the literature. We believe they are of fundamental importance for realising the full learning potential of CLIL by focusing on (i) a deeper understanding of the role of subject-specific literacies in enabling and enhancing effective (plurilingual) learning; and (ii) the iteration of a working model which will support new classroom practices and promote the development of learners' pluriliterate repertoires.

The role of subject-specific literacies in CLIL

If all students are to learn effectively, they must become literate to learn in different areas of the curriculum across the phases of learning. [...] If these literacy demands are left implicit and not taught explicitly they provide barriers to learning. (Queensland Government, Department of Education and Arts, n.d., p. 4)

Due to the 'socially contested' nature of literacies (Gee, 1996, p. 22), definitions range from those narrowly focused on cognitive skills emphasising reading and writing skills, to those where more than one language is used involving complex language practices and the social cultural values of speakers in multilingual communities. The New London Group (2000) captures literacy practices as *multiliteracies* which take account of multimodalities far beyond the printed word including technological developments as well as the growing diversity of languages and cultures within an increasingly global community. In a similar vein, Hornberger's 'continua of biliteracy' create an integrated way of analysing complex phenomena, including the contexts, development, media and content of text 'integral to the nature of participants' interactions and their interpretative processes' (Hornberger, 2003, p. xiii) in a bilingual context. Building on this work García, Bartlett, and Kleifgen (2007) suggest a pluriliteracies approach to learning not only to capture literacy continua with different interrelated axes, but also to emphasise '*literacy practices in sociocultural contexts, the hybridity of literacy practices afforded by new technologies and the increasing interrelationship between semiotic systems*' (2007, p. 10; italics in original). Whilst García

et al.'s work outlines broad principles for a pluriliteracies approach to learning, our current work focuses particularly on literacy practices using more than one language, which are 'enmeshed and rely upon multiple modes of communication and semiotic systems' (2007, p. 13) within the context of the formal learning of academic subject discourses and thinking in CLIL classrooms.

Considering the notion of academic language, Zwiers (2007) states that the role of language development in subject learning is poorly understood, not only due to the paucity of research investigating the interplay between subject matter learning and language development (regardless of L1, L2 or other), but essentially in the failure to understand that the language we use to make meaning of academic concepts is much more than technical vocabulary or key subject-specific phrases (Scarcella, 2003). Academic literacy and disciplinary literacy involve discipline-specific discursive language use which follows a way of articulating or 'linguaging' (Swain, 2006) which is discipline-specific. Deep academic understanding cannot happen without appropriate academic language use. Scardamalia and Bereiter not only assert that 'progress of knowledge ... is the progress of knowledge building discourse', but that 'there is no advance of community knowledge apart from the discourse' (2006, p. 112). Thus, the need to shift teacher and learners' attention towards academic literacies development opens up new pathways towards deep learning.

Since knowledge is constituted in semiotic systems of which language is considered to be the most central one (Mohan, Leung, & Slater, 2010, p. 221), it follows that progress along the knowledge pathway in different subject domains involves increasingly mastering disciplinary literacies. Progression in this sense will require a growing capacity to language or articulate understanding as it emerges, which in turn requires learners to know how to draw on a developing and increasingly appropriate linguistic repertoire.

According to Gee (1989), if literacy in its broadest sense is defined as control of 'secondary discourses' (i.e. focusing on academic literacies in school rather than primary discourses of familiarity) and related appropriate uses of language (Goldoni, 2008) then the overarching goal in working towards pluriliteracies is, 'to be able to think about and analyse texts critically, master sophisticated language and convey appropriate content and recognise how meanings are made within a wide range of texts [...] and discourse communities' (Crane, 2002, p. 67). It must be noted that discourse communities in this sense include communities across languages and subject disciplines.

However, Dalton-Puffer (2004) found that productive language skills, especially speaking including articulating understanding, do not seem to be promoted in the CLIL classrooms she observed. More specifically, she noticed an absence of academic discourse functions in classroom discourse:

Considering the fact that teaching subject specific concepts and their respective meaning extension is a central aspect of content teaching, definitions are a surprisingly infrequent phenomenon in the data. In 17 out of 43 lessons (40%) no instances of defining could be identified at all. Under these circumstances it may be unsurprising that the lexemes definition or define do not occur at all in the entire data corpus. And since the genre is not even named, it is equally unsurprising that there is no meta-talk about it. The written materials used during the lessons did not contain any definitions and as no writing tasks are set in these lessons, written definitions can also be discounted. (Dalton-Puffer, 2004, p. 32)

The author reports similar results with respect to other discourse functions ... such as *explaining*, *hypothesising* and *predicting*. In similar vein, Vollmer's (2008) comparative study of CLIL and non-CLIL students reports that many of the CLIL learners he observed displayed poor academic writing skills, even at the age of 16. More often than not, students failed to

articulate subject-specific concepts and issues adequately by using the appropriate language:

Another important result is that **both groups of learners show considerable deficits in their academic language use**, in the knowledge and mastery of academic forms of communication and of writing in particular: the specific competences in handling the language dimension adequately and in expressing their thoughts and findings appropriately or functionally according to the genre(s) demanded are equally low, they show a serious lack of command over or sensitivity for the requirements of academic language use, **both in L2 and in L1**. (Vollmer, 2008, p. 272; emphasis added)

If language is indeed the ‘primary evidence for learning’ (Mohan et al., 2010, p. 221), then successful learning has to translate into the learners’ ability to articulate their knowledge and understanding appropriately. In this context, cognitive discourse functions (CDFs) which structure and drive academic discourse, lie at the interface between thinking and language (Bonnet, Breidbach, & Hallet, 2009, p. 175; Zydatis, 2007; see also Dalton-Puffer, 2013) and become essential objectives of the learning curriculum. Dalton-Puffer defines CDFs as:

[...] patterns which have arisen from the demand that participants within the institution school orient towards explicit or implicit learning goals and the fact that they have the repeated need for communicating about ways of handling and acting upon curricular content, concepts, and facts. It is in their very nature that they provide speakers with schemata (discoursal, lexical and grammatical) for coping with standard situations in dealing with the task of building knowledge and making it intersubjectively accessible. (2013, p. 11)

From this perspective, deficits in academic language use, or more precisely, learners’ poor command of CDFs, are indicative of teaching and learning contexts which are not meeting the academic discourse and language demands for developing learner pluriliterate repertoires. This lends support to Wolff’s (2009, p. 139) claim that CLIL has yet to live up to its full potential. In other words, a deeper integration of content and language has not yet been fully conceptualised.

In a similar vein, Heimes echoes the points raised thus far in terms of a number of unsolved issues in the current CLIL debate – in this instance with reference to the History curriculum:

[...] the question of how and to what degree foreign language skills and discipline specific skills constitute the concept of *history skills* and whether or not their integration produces synergetic effects and/or added language benefits, remains unanswered. The apparent conceptual coherence fully shatters when fundamental issues such as the relation between content and language or the role of L1 are touched upon. (2010, pp. 15–16; authors’ translation, emphasis added)

Taken together, these findings strongly suggest that adopting a CLIL approach does not automatically lead to effective learning and increased subject-specific task performance. Moreover, as outlined in the introduction to this article, these results align themselves with a more macro-level educational challenge: the teaching of academic language seems to be neglected, not only in CLIL or immersion settings but also across content classrooms in general (Ting, 2012). The consequences of a lack of awareness and focus on academic literacies may well impact on the construction and communication of deep knowledge which requires strengthening fundamental links between thinking and language. As Van Lier (2008, p. 599) points out:

language does not act alone in this meaning making process. The surrounding world plays a constitutive part as well, including the physical world of objects and spatio-temporal relationships, the social world of other meaning making, and meaning-sharing persons, the symbolic world of thoughts, feelings and cultural practices, values and so on ...

To sum up thus far, with respect to CLIL, there are a number of reasons why academic, subject-specific language skills may not have received proper attention in classrooms:

- (1) Recent studies into practice-oriented theories of CLIL indicate that many CLIL teachers are embracing very traditional, input-based and ‘transmission’ approaches to classroom pedagogies (Viebrock, 2010) resulting in a lack of focus on output production and autonomous learning.
- (2) Foreign language teachers who have advocated CLIL in many countries might have influenced the way that the role of language in content teaching is conceived and taught.
- (3) A deeper understanding of how the integration of content and language can actually be conceptualised has only recently begun to emerge (Bonnet, 2012; Coyle, Hood, & Marsh, 2010; Dalton-Puffer, 2013; de Graaff, Koopman, & Tanner, 2012; Ting, 2012), so there may be too few resources and materials for teachers to draw on.
- (4) Although research into the integrated assessment of language and content is very promising (cf. Coetzee-Lachmann, 2007), there is not as yet any guidance or pedagogic tools for teachers to implement integrated assessment methods.

Mohan quoting Byrnes (2002) notes that:

the assessment of content requires a language-based theory of knowing and learning that addresses characteristics of literate language use in all modalities, but a major difficulty lies in the fact that the L2 community cannot as yet readily draw on a theory of language that places meaning and content in the center of its interest. (Mohan et al., 2010, p. 220; authors’ emphasis)

This statement points to the heart of the matter: the absence of a conceptualisation of the role of language and its relation to conceptual development, knowledge construction and meaning-making. Like Mohan, Zydatiř (2007) stresses the need to revise the theory of language underlying CLIL. He argues that the successful integration of content and language requires a radical shift and consequently a reconceptualisation of learning in general and of CLIL pedagogies specifically. Transcending traditional dichotomies such as ‘competence vs. performance, content vs. language or language vs. thinking’ (2007, p. 401; authors’ translation) will require a critical reconceptualisation of the roles of language in learning (Llinares, Morton, & Whittaker, 2012). According to Zydatiř, such an understanding of language can be found in systemic functional linguistics (SFL), which provides a language-based theory of knowing and learning:

SFL sees language as a means for learning about the world. It models learning as a process of making meaning, and language learning as building one’s meaning potential to make meaning in particular contexts. Knowledge is viewed as meaning, a resource for understanding and acting on the world. (Mohan et al., 2010, p. 221)

Adopting such a concept of language and learning would have far-reaching implications for CLIL: a focus on meaning-making would make subject-specific performance in both the

oral and the written modality a priority for teachers and turn it into a cornerstone of developing subject-specific literacy which can be defined as follows:

[...] developing subject-specific literacy can be said to involve the development of learners' ability to use a specific register that is different from the registers embedded in the discourses of family life and interaction with friends. It means developing learners' ability to use language to construct meaning in explicit ways for a generalized audience and to engage with unfamiliar interpretations of experience that are different from their own. Subject-specific literacy is not only paramount to successful participation in the activities of school, but as pointed out earlier, also forms the basis for active participation in all other forms of institutionalized discourses [...]. In terms of bilingual subject-specific education, the aim should be to develop learners' ability to participate in institutionalized, technological and political discourses of a globally connected world, promoting their personal and professional mobility and their independent and critical use of international networks of communication, such as the Internet. (Coetzee-Lachmann, 2007, pp. 18–20)

Towards subject-specific literacies: conceptualising progression within knowledge pathways

The question as to how subject-specific literacy learning can be promoted in school has been addressed by several scholars including Veel (1997), Martin and White (2005), Coffin (2006a, 2006b), Halliday and Matthiessen (2004), Martin and Rose (2008) and Llinares et al. (2012), drawing especially on SFL. For example, after analysing the main genres in science textbooks, Veel (1997) demonstrated how these texts work to construct certain kinds of meaning. He argues that such texts construct an 'idealized knowledge path' (1997, p. 189) introducing students to the conventions of the subject-specific discourse communities embedded in school subjects. According to Veel, each 'stage' of the knowledge path has a number of corresponding macro-genres – which Polias (2015 forthcoming) has identified as four major activity domains in school science that students need to master in order to become literate in science regardless of the language medium:

- (1) 'doing science' (procedure, procedure recount);
- (2) 'organising science' (descriptive and taxonomic report);
- (3) 'explaining science' (sequential, causal, theoretical, factorial, consequential explanation and exploration);
- (4) 'arguing/challenging science' (exposition and discussion).

Figure 1 (Polias, 2015 forthcoming) usefully sets out the specific genres and purposes that relate to the scientific processes of constructing knowledge and meaning-making – in this case for school science (see Figure 2 for a taxonomy of major genres that learners need to control for success in secondary school according to Rose & Martin [2012]). Therefore, genres can be used as one guiding principle to map subject-specific literacies progressions for curriculum design.

However, progress along the knowledge pathway is not merely a question of mastering a growing number of genres: according to Martin (1992), such progress needs to be accompanied by a shift in the knowledge path from the 'grammar of speaking' to the 'grammar of writing'. This idea is expanded by the concept of a 'mode continuum' from 'language as action' to 'language as reflection', and from 'casual conversation' to 'planned written monologue'. Accordingly, progress along the knowledge pathway must be mirrored in the quality of the students' use and control of language and thus become manifest in the:

Scientific processes	Genres	Purposes
doing things scientifically	Experiments and Protocols	Instruct someone how to do things
	Laboratory reports	Provide a recount of the method, as well as the results, discussion and conclusions
	Investigations	Set out the design and decisions behind students' attempts to behave scientifically
describing and organising the world scientifically	Descriptions	Describe multiple aspects/features of a natural or physical phenomenon
	Comparisons	Compare features of two or more physical phenomena
	Compositions	Present (describe and or define) component parts of a physical phenomenon
	Classifications	Present different types (classes) of a phenomenon
explaining phenomena scientifically	<i>temporal explanations</i>	
	Sequential Explanations	Explain physical phenomena by presenting the events producing the phenomena in chronological order
	<i>non-temporal explanations</i>	
	factorial/consequential Explanations	Explain the multiple factors/consequences that contribute to a particular event or phenomenon
arguing scientifically	theoretical Explanations	Define and illustrate a theoretical principle
	Arguments	Persuade to agree with a particular point of view on an issue and some exhort the reader/listener to take action
acknowledging scientists	Discussions	Present the case for more than one point of view
	Biographies	Recount the major events in a famous scientist's life

Figure 1. Scientific processes, genres and purposes (Polias, 2015 forthcoming).

- breadth of obligatory and optional genre moves;
- depth of content information provided in each of these genre moves;
- quality of language use at the discourse, sentence and lexico-grammatical level in line with genre expectations. (Byrnes, 2002 in Mohan et al., 2010, p. 222)

Llinares et al. (2012, p. 147) point out that applications of genre analysis for teaching content in classrooms in different parts of the world have shown its effective use:

since understanding the function of text and of the stages it is made up of, allows teachers and students to connect subject knowledge and the use of language. The cognitive functions intrinsic to a subject become visible through a focus on genres and their stages.

Subject-specific discourses are multimodal, with knowledge representations not being confined to written texts but including non-verbal, visual/audio material, graphic or symbolic representations and actions (Leisen, 2005; Martin & Rose, 2008; Unsworth, 2004). Indeed, Hallet (2012) considers semiotic translation skills fundamental to the acquisition of subject-specific literacies in CLIL:



Figure 2. Map of genres in school (Rose & Martin, 2012, p. 128).

Literacy learning in the content classroom is therefore connected with the integration of subject-specific semiotisations into the learner's everyday knowledge, into their active use in subject-specific discourses and in their subject-related everyday discourse. In the case of CLIL, 'literacy' also entails the capacity to describe and explain symbolic representations and forms (like, e.g. a curve diagram or a map) in a second or a foreign language, in the main language of instruction and/or in one's native language. The latter elements of subject-specific literacies obviously also require meditational competences, or skills that allow learners to translate content matter from and between all the different languages that are involved in literacy learning in a content subject. (p. 196)

In sum, the authors' position is as follows: if the ability to successfully navigate multimodal representations of knowledge is indeed fundamental to the process of meaning-making and knowledge construction and thus to the acquisition of subject-specific literacies required to progress along the knowledge pathway, then the question of how this particular 'Textkompetenz' (Zydatiŕ, 2005) can be successfully promoted in school must become the focal point of a pedagogic approach that targets the *integration* of content and language. The implications of integration are taken up again in the conclusion.

A pluriliteracies model (Graz Group): mapping progression

An identified need to address current issues of integration in CLIL alongside the call for a pluriliteracy stance on language education motivated the project entitled 'Literacies through Content and Language Integrated Learning: effective learning across subjects and languages' funded by the European Centre for Modern Languages (ECML). The purpose of this initiative is to sensitise teachers towards pluriliteracy as an end-goal in both content education and language learning and provide them with a guide towards more

literacy-sensitive classroom practices. We will, therefore, present a visual model which was created and is evolving with the help of a range of international experts brought together under the name of ‘The Graz Group’. This group has developed a model mapping the development of subject-specific literacies which we believe demonstrates that we have transcended the content/language divide through *interaction and interrelationship* between conceptual development and language development.

As illustrated in Figure 3, as learners progress along the conceptual continuum, delving deeper into the four activity domains and thus increasing their discipline understanding,¹ their mastery of disciplinary discourse must likewise progress. Learners need to be able to position themselves appropriately along the communication continuum by responding to three key determinants: What is the context of the discourse, who is our audience and what is the purpose of our discourse production? In school contexts, progression along the knowledge pathway towards deeper subject understanding demands greater command of secondary discourse, evidenced as increasing mastery of disciplinary or subject-specific literacies (Coffin, 1997; Veel, 1997). In other words, progression on the knowledge pathway must therefore be accompanied by a progression in learners’ subject-specific literacies, that is, the tools which enable meaning-making and knowledge construction. A requisite for effective learning will therefore depend on learner mastery of discourse which positions itself appropriately along the continua and involve self-awareness processes.

Language and text still dominate most disciplinary literacies within the context of education. However, an increasingly digital and image-based world, where semiotics are multi-modal and hybrid in nature, calls for increasingly more pluriliterate citizens. Therefore, the term pluriliteracies in this model accommodates not only that CLIL learners operate in an additional language, it also encompasses the need for education to consider plurimodal semiotics.

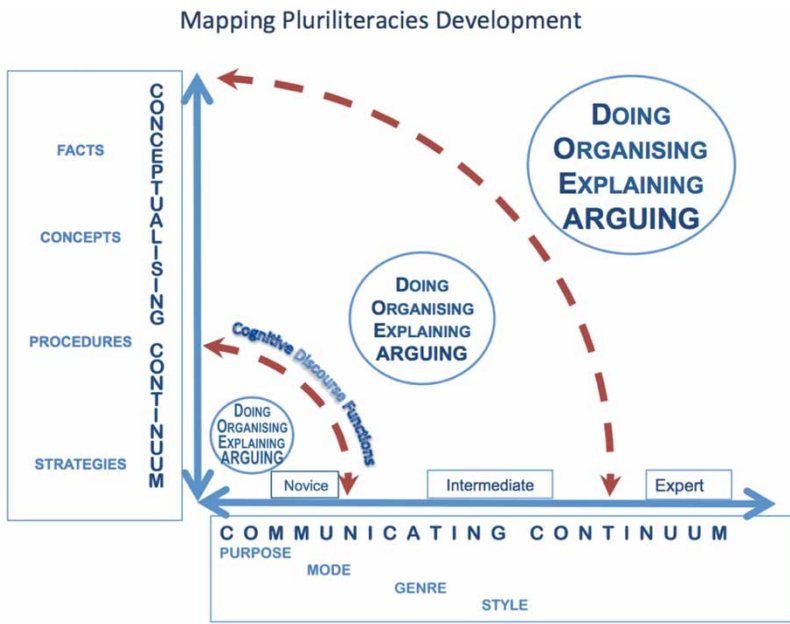


Figure 3. The Graz Group model of pluriliteracies development.

In our model, pluriliteracies development results in the growing ability to ‘express/verbalise’ subject-specific concepts or conceptual knowledge in an appropriate style using the appropriate genre and genre moves for the specific purpose of the communication in a wide variety of modes. In other words, students make meaning by strengthening the connections between the *conceptual continuum* and the *communication continuum*. Pluriliteracy progression is thus evident as novices increasingly develop their meaning-making potential, moving outwards through the pluriliteracy arc on the model. From this perspective, pluriliterate ‘experts’ are thus sensitive to the social and cultural contexts at hand, positioning themselves inside the conceptual–communication continua and responding appropriately by adapting their language to the specific purposes, modes and audiences, thus participating in and constructing meaningful social interactions.

This model serves both teachers and learners in two ways. First, it raises awareness of the need to re-think literacies development by clearly identifying the components of knowledge construction and meaning-making as fundamental to subject-specific literacies. Second, the model fundamentally challenges the relation of content and language that has governed the CLIL discussion so far and provides a means of understanding *integration* as fundamental to learning.

Following the tenets of SFL, the model requires a focus on the active construct of meaning-making rather than the rather passive notion of content knowledge as a more static-defined state often reflected in school curriculum and syllabus documents. Consequently, applying the model necessitates an alternative way of assessing a learner’s progress along the knowledge pathway by evidencing his or her ability to ‘language’ subject-specific concepts/domain knowledge. Making connections which evidence meaning instead of reaffirming prior knowledge contextualised at a surface level requires learners to use language in different ways. For example, explaining cause and effect or temporal sequence relies on appropriate use of language which can be understood by others and self according to different stages of development. In other words, this model visualises what deep learning means: putting literacies development at the centre will challenge teachers to focus on subject-specific task performance in order to empower their learners to actively engage in subject-specific discourses. The addition of ‘mode’ as a subcategory of the communication continuum stresses the need for teachers to teach their students to understand, critically reflect *and* to create multimodal messages. The model provides both teachers and students with a way to ‘visually map’ out their *progression in literacies*: learners’ texts can be mapped onto the model to trace their *literacy development* over time. This might also allow researchers to define levels of subject-specific literacies to compare and evaluate learning programmes across educational contexts.

In addition, a pluriliteracies approach to CLIL challenges notions of BICS (basic interpersonal communicative skills) and CALP (cognitive academic language proficiency) or more specifically, misrepresentations of Cummins’s (1979) model. The division between BICS and CALP does not exist in our model since language relates to the situation, context and purpose of use. If, for example, teachers were tasked with teaching their learners how to explain subject content/concept X in mode Y (i.e. a chart or a map) using simple causal explanations (= explaining at the novice level), then the desired depth of content processing would determine the language level the students would be required to use in order to conceptualise and articulate that explanation. If, however, the content required a more complex level of articulation such as explaining and interpreting data contained on a detailed map, this would require moving from mono-causal to multi-causal explanation and would ask for structures requiring more complex language (e.g. explaining at the expert level). Hence, when the strands that make up subject-specific literacies are identified

and subsequently worked into task progressions, this does not separate out language from content and cognition, but rather sees all of them as part of the same process which is knowledge building and meaning-making or simply effective learning.

As learners successfully construct their understanding, they should be able to move from academic to colloquial and vice versa. Rather than limiting learning, this approach opens up academic literacies to younger learners via carefully constructed scaffolding and instructed strategy use, underpinned by the principle that ‘content and language are inseparable’ (Llinares et al., 2012, p. 274). Meyer’s (2013) research shows that such an approach can significantly impact task-specific performance of primary CLIL learners, indicating that a revised understanding of learner strategies may be the key to operationalising pluriliteracy instruction in CLIL classrooms across age and ability ranges.

Bridging the 4Cs framework and the pluriliteracies model

The 4Cs framework developed in the 1990s serves as a pedagogic tool for teachers to foreground key ‘components’ for planning CLIL (Coyle et al., 2010). It is widely used in CLIL contexts as a means of bringing together different aspects of learning processes into a conceptual framework. Emphasising the need to consider the content of learning (Content) and the cognitive and thinking processes (Cognition) involved alongside the language required (Communication), all driven by societal and academic cultural determinants of learning (Culture), has provided an accessible tool for planning and conceptualising CLIL in schools.

However, whilst the integration of content and language is at the core of CLIL, the 4Cs Framework does not indicate how this integration might take place and how the complex interrelationship between the 4Cs can be conceptualised. Indeed, as has been discussed in this article, what is meant by integration in CLIL contexts and the implications of this are seldom addressed, especially from a subject perspective. This has led to concerns expressed by subject teachers, teacher educators and researchers that ‘compromising their subject’ (usually taught in the majority language) will negatively impact on learning. In particular, the need to address the notion of losing subject identity traditionally embedded in academic cultures as well as the fear that conceptual development fundamental to progression within the discipline will be overtaken by more content-based language instruction has motivated the Graz Group to develop a dynamic model building on the 4Cs which theoretically and visually represents how integration might take place.

In essence building on the theoretical arguments presented in this article, bridging the 4Cs framework with the pluriliteracies model can be summarised as follows.

C-Content in and by itself is meaningless unless it is conceptualised. To actively construct knowledge and to promote subject-specific literacies, learners need to conceptualise content in ways that are appropriate to the subject *C-Culture*. As has been discussed previously, it is this subject *C-Culture* that determines how the *C-Cognition* is put to use in the way that *C-Content* will be *conceptualised* and how the *C-Communication* is used to (co-)construct knowledge. To successfully conceptualise content, learners will employ a subject-specific mix of cognitive discourse functions and general and specific strategies and skills. To demonstrate their understanding, learners need to be taught how to communicate purposefully across cultures and languages using the appropriate *style, mode and genre* typical for the subject and for the audience.

Hence, our pluriliteracies model seeks to inform practitioners and researchers about the ‘language muscles of content disciplines’ (Dalton-Puffer et al., 2014, p. 216). It privileges the *C-Culture* as a subject disciplinary filter (subject-specific literacies) through which the

other Cs are interpreted and inextricably melded together uniting conceptual and language progression. However, other broader societal factors will continue to impact on ways in which meaning-making happens, especially with regard to inter- and transcultural aspects of communication.

By moving CLIL into a pluriliteracies framework, as has been argued throughout this article, it is hoped that the fears expressed above will be assuaged, and that a clearer and deeper understanding about the nature of integration will be shared including how to make it happen in the classroom.

Conclusion

In summary, the arguments presented in this article contribute to the construction of a theoretical model of pluriliteracies built on the premise that progression in discipline or subject understanding will be limited unless it is accompanied by progression in learners' subject-specific literacies. To date, little attention has been paid to ways in which a systematic and transparent approach to developing subject-specific literacies through an additional language and across different subjects can be practically applied in CLIL classroom settings. Our conceptual map which charts the progression of literacies development across languages – hence the term pluriliteracies – and exemplified with classroom data of how this might happen in practice is currently evolving. In this model, pluriliteracies development involves the growing ability of individual learners to 'language' subject-specific concepts and knowledge in an appropriate style using appropriate genre moves for the specific purpose of communication in a range of modes. Our study is exploring ways of strengthening the connections between the *conceptual continuum* and *communication continuum* leading to guidelines to support teachers and learners across a range of CLIL contexts. To embrace the demands of twenty-first-century education and to mainstream CLIL in secondary education, CLIL education must be re-modelled to not only support subject learning in cognitively challenging ways but to do so through a 'pluriliteracies' approach involving more than one language. Moreover, our model suggests that under certain conditions, younger (i.e. upper primary) learners can engage in the same knowledge activities, domains and genres linked to particular subjects like more advanced learners. The difference being a limited number of available obligatory and optional genre moves and correspondingly, a less sophisticated but age-appropriate level of content processing and conceptualisation.

Pathways for progression are mapped out in the model. Populating the model with exemplars will focus on the conceptual communicative development of individual students. It offers the learners systematic support and opportunities to strengthen their meaning-making potential in a learning environment that provides:

- rich subject-specific multimodal input, built on challenging tasks to engage learners in a process of co-constructing knowledge in different languages;
- opportunities for learners to demonstrate their understanding and to apply their knowledge across languages in different styles, various modes and for different purposes;
- language learning which takes account of linguistic development but does not make assumptions that language learning development in these contexts has to be conceptualised separately or differently from subject progression;
- learning tasks and activities which seriously challenge the notion that for learners to succeed they have to already have a particular level of the CLIL language such as a grounding in BICS;

- spaces for reflection and awareness-raising;
- authentic problem-solving tasks;
- opportunities to move beyond ‘knowledge about’ and into ‘knowledge of’ and towards an education that promotes idea improvement and knowledge building (Scardamalia & Bereiter, 2006);
- feedback and scaffolding by literacy-aware teachers intent on empowering learners to actively and increasingly participate in the complex discourses of a globally connected world.

As has been referred to throughout this article, one of the greatest challenges in transforming current CLIL thinking is associated with the notion of integration, that is, that integrating content learning and language learning will lead to richer learning experiences. We have argued that *connecting* content and language learning is not enough for deep learning. Rather the two constructs demand an alternative means for development which we believe lies in the conceptualisation of pluriliteracies. It may be that situating this work in the field of educational linguistics is a positive way forward which supports this evolving paradigm. If educational linguistics investigates holistically the broad range of issues related to language and education (Hult, 2008, p. 12) and sits at the intersection of education and linguistics (Spolsky, 1978), then pedagogic approaches to support CLIL need to be based on practices informed by linguistic research but not limited to it (Brumfit, 1996).

From the macro perspective, we have positioned developments in CLIL thinking and theorising in an evolving and rapidly changing educational context. The authors believe that transforming classroom learning into deep learning – based on Fullan and Langworthy’s (2014) ‘new learning partnerships’ between teachers and learners – will require significant shifts in expectations of what can be achieved in formal education settings where the language of learning is not the first language of the learners – whether the learners are in a foreign, additional, second language or multi-language settings. A pluriliteracies approach to learning therefore will have to evolve as a matter of some urgency within the global contexts of educational change:

New learning partnerships between teachers and students are the essential foundations for effective new pedagogies. These partnerships are beginning to emerge naturally as digital access opens the door to broader and more varied sources of content knowledge [...]. Deep learning tasks build upon the foundations of the new learning partnerships. They challenge students to construct knowledge and begin to use their ideas in the real world. In the process, they develop key skills and the experience of doing ‘knowledge’ work in ways that develop tenacity, grit and the proactive dispositions that pave the way to flourishing futures. (Fullan & Langworthy, 2014, p. 76)

In the spirit of ‘new learning partnerships’ and the need to ensure that CLIL teachers are central to this development, the next iteration of the pluriliteracies model will take account of classroom approaches underpinned by theoretical principles and encouraging teachers and learners to populate it with their own examples drawn from different contexts and using different languages. Our work remains committed to the pluriliterate citizen who is at the core of the new pedagogies paradigm.

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Note

1. We agree with Collins (2006) who argues that domain knowledge (the explicit concepts, facts and procedures associated with a specialised area) is necessary but not sufficient for expert performance. Domain knowledge must be accompanied by strategic knowledge (heuristic strategies, metacognitive strategies and learning strategies) which will enable students to solve problems and accomplish tasks in a domain.

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