

Integration of language and content learning: Research advances

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The concept of integrating second language (L2) learning with content learning has become one of the cornerstones of L2 pedagogy. Today, there is wide consensus regarding the basic principles of content-based language teaching among educators and second language acquisition (SLA) researchers. Interestingly, this broad agreement cuts across the different theoretical perspectives in the field. This paper will first trace the origins of content-based language instruction to its first large scale application in the immersion programs in North America. In particular, for school-age second language learners, content-based immersion teaching has been shown to be the most efficient approach for providing high quality language instruction to L2 learners while at the same time ensuring that children make progress in the academic content objectives. Next, we will examine the more difficult problem of how to integrate language-learning objectives into the content lessons. Questions that educators and researchers are still grappling with are: (1) Is comprehensive input sufficient or do second language learners benefit from some form of direct instruction focused on language objectives? (2) If some form of planned and organized instruction focused on language learning objectives is recommended, what kind of focus on grammar and vocabulary is most effective? (3) How can this double task, seemingly implying a double learning burden on child learners, be made feasible?

INTRODUCTION

The successful implementation of French immersion teaching in Canada, beginning in the 1960s, has generated one of the most important bodies of research on child second language learning and bilingualism (Laplane, 2001; Lazaruk, 2007; Swain & Lapkin, 2005). Second language immersion techniques are all based on the basic concept of content-based language instruction (CBI) and have been incorporated into different types of program model. These techniques all apply the same underlying teaching principles. The widest application of second language immersion is to the teaching of English as a Second Language (ESL) in countries with large numbers of child L2 learners, as in the United States, and to the teaching of English as a Foreign Language (EFL), internationally. Notably, in China, Taiwan and other Asian countries, an important discussion has developed recently on how to most effectively implement English-medium content instruction, comparing and contrasting the different pedagogical approaches. For example, what is the best way to apply a *distribution* of L1 and L2 across the curriculum (as opposed to exclusive L2-medium instruction in all subjects), and how to strategically *combine* the key elements of both communicative and grammar-focused teaching (Rao, 2006; Wannagat, 2007; Yu, 2008)?

Before discussing this research it is important to distinguish clearly between: (1) the *methodological approach* of immersion teaching and (2) some *program models* that propose the implementation of immersion teaching to the exclusion of instruction in children's first language. The methods of content-based language teaching (in this paper synonymous with immersion, #1 above) can be applied to any type of program model that includes a second language component, including the various types of bilingual education. Such was, in fact, how they were originally conceived. Immersion program models of the type that do not

contemplate any participation of learners' primary language, #2, belong to two categories: (2a) exclusive use of the L2 for all instruction as a default option given the unavailability of resources to provide for a dual-language curriculum (e.g. the practical limitations imposed by situations of a high degree of linguistic diversity, many L1s in the same classroom, shortage of teachers who are bilingual in the target language and children's L1) and (2b) the programmatic exclusion of child L2 learners' first language; in this instance, the second language is the exclusive medium of instruction for deliberate language policy reasons, sometimes ideologically motivated, as has become increasingly common in the United States. For example, Structured English Immersion (SEI) is a *program model* in the U.S. that typically implies the exclusive use of English in all instruction.

In contrast, immersion *teaching methods* are utilized in both all-English programs and dual-language or bilingual programs. In the latter case, the special modifications of immersion teaching (for beginners, higher levels of context support, controlled vocabulary, simplification of grammar, etc.) are applied to L2-medium content lessons, while L1-medium instruction proceeds normally. In SEI programs, the L1-medium component is eliminated, so to speak. Of course, L2-only immersion program models do not apply to elementary level EFL settings because the L1-medium component (or the national/official language-medium component, as the case may be) cannot normally be eliminated. In the next two sections, the interesting debate on the relative merits of the different second language and bilingual program models will be temporarily set aside, allowing us to attend to the curriculum features of content-based L2 teaching as they would appear in any second language or bilingual classroom. The question of how CBI methods are implemented in bilingual versus second language-only program models will be taken up in the concluding section.

1. THE LOGIC AND RATIONALE OF CONTENT-BASED LANGUAGE TEACHING

To review the first question that was posed at the beginning of this discussion: Is comprehensive input sufficient or do second language learners benefit from some form of direct instruction focused on language objectives?

Early implementations of immersion often followed strong versions of the communicative approach to L2 learning: subject matter classes are taught in the second language, applying the special modifications of immersion teaching to classroom discourse, necessary for L2 beginners in academic subjects. In a complementary way, classroom routines and management and other highly context-embedded non-academic uses of language can easily dispense with this kind of Language Learner Sensitive Discourse (LLSD). Thus, for beginners, the right balance between LLSD and enhanced context support makes L2 input comprehensible. In this fashion, extensive and intensive comprehensible input provides the positive evidence, the Primary Linguistic Data, which child L2 learners need in large quantities. While for older and more advanced L2 learners simplification and other modifications in speech and teacher discourse become progressively unnecessary, additional context support, such as "enhancement strategies" (Lin & Chen, 2006), continue to provide necessary scaffolding. Interestingly, while there is no principled contradiction between communicative methods and grammar teaching, in strong versions of the communicative approach, direct instruction of grammar and vocabulary was, and still is, viewed as potentially useful only for developing conscious declarative knowledge of the target language and related metalinguistic abilities. According to this view, language instruction that fosters the development of these kinds of knowledge and ability would not contribute to implicit competence. The strongest version of the communicative approach, in theory, would systematically minimize direct language instruction.

Independent of this "non-interface" theory, to be clear, most of the early elementary immersion programs did include a good measure of explicit grammar instruction as part of the Language Arts and Literacy curriculum (spelling, phonics and word analysis, rules of usage such as punctuation and capitalization of complete sentences, and other grammar conventions of academic writing). In addition, for these young language learners, core L2 grammar learning objectives (verb inflection, patterns of singular-plural, concordance, etc.) could be easily incorporated into the weekly Language Arts units, most notably in writing activities. In fact, this is a potentially fortuitous coincidence for L2 immersion, especially in the elementary grades, that teachers can take advantage of. The K-6 (Kindergarten-6th grade) Literacy and Language Arts curriculum (academic language proficiency) and the language learning objectives that L2 learners need to master (the core grammar and vocabulary of the target language) are not the same. But in the L2 immersion classroom they can be organized and taught in a way such that the learning of academic language proficiency serves the objectives of learning the L2 core grammar and vocabulary. In a sense, the "content areas" of Reading and Writing, lend themselves to a special kind of CBI because so much of their content consists of language learning objectives already. In this way, literacy learning and the study of the conventions of academic discourse also become an opportunity for an organized and systematic learning of the basic grammar of the second language. Only those communicative-oriented immersion programs that were also strongly influenced by a whole language philosophy would have suppressed the grammar learning objectives of the standard elementary Language Arts content area.

More recent implementations of immersion teaching have extended the idea of integrating language and content beyond simply teaching content through the medium of the second language. The new version of content-based language instruction views each lesson as an opportunity for inserting a parallel grammar lesson, a language learning focus incorporated into the content learning activities of Science, Social Studies, Mathematics, and Music (Brinton et al., 2003), in addition to the "special CBI" of L2 Literacy and Language Arts. This idea of a more deliberate integration of language and content was prompted in part by an interesting finding from the large-scale assessment of Canadian immersion graduates: near-native and grade-level abilities in academic reading and listening, but stabilized interlanguage, far from native competence, in speaking and writing.

Complementary objectives in grammar are either content-compatible, not required for full comprehension, or content-obligatory, indispensable for comprehension of the content (Gajo, 2007; Hernández, 2005). Content-obligatory language objectives would need to be pre-taught or assured by some other means prior to the lesson. In contrast, the treatment of content-compatible language objectives can be shifted toward the actual content lesson or learning activity itself, linking them to specific objectives so that they "pair naturally" with textbook passages and other materials (Snow, 2005).

In this scheme, vocabulary learning now plays a pivotal role in the linking of content learning and grammar learning. One way of conceiving of the important work of building L2 vocabulary knowledge is to start with the requisite concepts of the content lesson; in a way, learning new words is part of the content learning objectives of a unit of study. Some new words will be "obligatory," belonging to the minimum required background knowledge for new concept learning, others "compatible," lending themselves to mastery during the unit lessons.

But both terms for new concepts and new (L2) terms for previously acquired concepts are not just conceptual entries linked to a new phonological form in the second language lexicon. The language learner also faces the task of "completing" each lexical entry with its corresponding grammatical subcomponents: each word's morphological properties and how the word combines syntactically with other words in well-formed phrases. In this way,

vocabulary learning is a kind of bridge, or interface, between the content and grammar domains of CBI. Interestingly, in L2 learning in academic settings, students typically make rapid advances in the aspects of lexical knowledge which involve a fast mapping of concept to phonological (or orthographic) form. As their overall linguistic competence advances these early and incomplete lexical entries serve to help bootstrap the further development of grammar. A particular advantage of deliberate and systematic vocabulary learning by L2 students (aside from helping them master more rapidly the content objectives at hand) is that it lends itself ideally to explicit learning strategies that the teacher is in an especially favorable position to help facilitate and organize for them (Laufer, 2006; Read, 2004).

As should be evident, this approach to content-based language teaching has accepted the essential advances of the communicative teaching model, over traditional grammar-translation and rote memory learning. Today, virtually all proponents of integrating grammar learning into the content curriculum assume a teaching model that is thoroughly communicative, providing the learner with extensive comprehensive input in all lessons and learning tasks (Rothenberg & Fisher, 2007). Applications of this method of content-based language teaching, even of the planning-driven and direct instruction variety, are also fundamentally, and by their very nature, meaning-focused (for discussion, see Ellis, 2005).

From this point of view, the terminological distinctions still current in the field, opposing what are termed Focus on Meaning (FonM), Focus on Form (FonF) and Focus on Forms (FonFs) do not contribute clarity to the discussion. Research informed practice in L2 teaching, especially at the elementary level, has helped to a great degree to dissolve the demarcations among these categories, never having been very sharp to begin with. One exception is the more inclusive term, Form-focused instruction (FFI), which is the umbrella category that includes both FonF and FonFs, and as such is useful because it marks a clear opposition to all types of zero-grammar simple immersion. In regard to the different FFI options, the problems of selecting grammar learning objectives and balancing grammar teaching and communicative activities are partially solved in the new immersion approach. All instruction is meaning-based and communicative, and the principle of maximizing comprehensible input applies to all domains of the curriculum, including Language Arts and Literacy. Most importantly, grammar objectives are now chosen primarily for their importance in language use for academic purposes, for the specific purposes that they serve in each subject matter content unit. In a sense, selected components of the second language grammar are prioritized based on their value or utility to language learners, as linguistic tools for the comprehension of concepts and for the solution of problems posed in each subject area. The emphasis then shifts from mastering the components of the L2 linguistic system that make the learner sound more like a native speaker to attaining proficiency in literacy-related academic uses of the L2. The latter, arguably, represents for child L2 learners a more important short-term objective considering the high-stakes demands, especially for them, of school achievement. In fact, in the medium and long term, an initial emphasis on the L2 for academic purposes may even make the mastery of the overall grammatical system more efficient and effective. From this point of view, the research in the field of English for Academic Purposes (EAP) and Content Based L2 Instruction (CBI) should work toward a more complete integration, as Snow (2005) and Song (2006) have proposed. This would also allow for a more fruitful sharing of findings between investigations in the area of post-secondary L2 learning (with which EAP is often associated) and the K-12 levels.

In summary, in part because a significant part of the elementary school teaching program is centered on attaining high levels of academic language proficiency, L2 grammar learning objectives (broadly defined) naturally find their way into the content areas. This circumstance happens to coincide with a growing consensus among SLA researchers: simple immersion (exclusively meaning-centered L2-medium content teaching that omits grammar

and other kinds of form-focused instruction) does result in measurable gains in target language competence. But, its tendency is to be less efficient (in terms of rate of progress) and less effective (in terms of ultimate attainment) than L2-medium instruction combined with a systematic focus on grammar and vocabulary learning objectives (Ellis, 2006). In addition, for child L2 learners, zero-grammar pedagogical models that impose a blanket exclusion on form-focused teaching face the serious problem of how to implement elementary grade level literacy instruction in the areas of both reading and writing (Birch, 2002; Shankweiler & Fowler, 2004).

2. INSTRUCTED SLA

What kind of focus on language learning objectives is most effective? First of all, it is important to emphasize that direct instruction in the L2 classroom can take many forms; a wide variety of approaches fall under this category. As a working definition, we can propose that direct instruction simply implies teaching that is planned and systematic in some way; a teacher actively engages students in learning tasks, which are organized around clearly identifiable learning objectives. For example, these might be specific aspects of the target language grammar that content learning activities and learners' current stage of mastery of the L2 show to be important. Learning activities are then designed with the purpose of having students attend to these aspects of the language system. One approach to the question of which objectives require attention would be to determine the difficulty of different grammatical patterns, generalizations and constructions for beginners, intermediates and advanced learners. If we recall from the previous section, the scope of this determination is narrowed somewhat by asking which aspects of the grammar are most useful for each academic purpose that presents itself to learners at each stage of their development.

Beyond describing the influence of learners' L1 (on which a relatively broad consensus has now been achieved), the question of which factors account for second language learning difficulty are still not well understood. As DeKeyser (2005) suggests in his review of the research, to the diversity of the factors that will be revealed to be important, a wide range of pedagogical implications will apply. Within some components of the L2 grammar, development clearly unfolds spontaneously, triggered by simple comprehensible input in sufficient quantity. In contrast, mastery of other component parts of the L2 system are likely to be significantly facilitated by one kind or another of direct instruction focused on the grammar of the language.

In addition, given the results of a now substantial body of investigation on instructed SLA, we can say that it is unlikely that any single set of direct teaching methods can be held up as superior to all others across the L2 grammar and for all stages of interlanguage development. Difficulties in grammar learning are likely to vary from one domain to another, and likely, in turn, to respond differently to one treatment versus another. One conclusion, however, does appear to be warranted from recent research: exclusively meaning-based simple immersion that rejects form-focused instruction and corrective feedback presents the least efficient and least effective alternative for L2 learners, children and adults alike (Doughty, 2003; Gass & Mackey, 2006; Lyster & Mori, 2006; Norris & Ortega, 2000; Williams, 2005).

Two recent discussion articles by Snow (2005) and Bigelow et al. (2006) serve as an important extension and elaboration on the seminal proposal for CBI offered years ago by Snow et al. (1989). Together, they provide much needed clarity on a number of central points in debate on how to implement language learning objectives in content-based L2 teaching. For this reason their arguments now deserve our close attention in this section.

While the general concept of content-language integration is easy to understand, and has been accepted widely among educators, difficult and even controversial questions remain regarding the kind of focus on language that should be integrated into the subject areas. Bigelow et al. outline the problem and offer a model for conceptualizing how the different components and subcomponents of both content and language can come together. Specifically, they address the issue of what we could categorize as an intermediate component: language functions. For teachers, planning the academic content lesson is relatively straightforward, even including the provision of additional context support required for L2 learners. But, as the authors observe, deliberate attention to grammar objectives has proven to be problematic at the actual point of instruction. Mistakenly, an emphasis on functions of language has often taken the place of a necessary attention to grammar and vocabulary, as if this emphasis could substitute for a focus on the sentence-level language objectives. As an "intermediate" category, examples of functions are: identification and description of concepts, retelling of narrative, explanation of processes, exemplification, analysis and synthesis, comparison and contrast, categorization, prediction, justification of a claim, and evaluation of knowledge. The argument could be made that all of these functions form an integral part of standard content teaching. But as ways-of-using-language-for-academic-purposes, we can think of them as a bridge or interface with grammar (an intermediate category between content and language). Recall that we categorized vocabulary learning in a similar way. Here, in fact, a third intermediate category can be added: discourse ability – the abilities and skills required to organize and comprehend texts, patently overlapping in a major way with the above language functions. Some educators might even say that, in practice, they are the same; that the functions are language objectives at the discourse level.

On the other hand (in the direction of grammar), for the ability to construct and understand coherent discourses (oral and written), the language learner needs to master the use of linguistic devices that connect one proposition to another and to establish cohesive ties within and across sentences. From this point of view, second language students are faced with two aspects of grammar learning: (1) at the sentence and word level – the syntax and morphology of well-formed phrases and words, and (2) at the level of discourse – the grammatical constructions and operations that serve higher-order language proficiency (involving academic texts in particular); see Francis (2006, 2007) and Schleppegrell et al. (2004) for discussion.

If we recall the rationale from the previous section for a convergence between CBI and EAP,¹ the central importance of the higher-order language functions and literacy-related discourse ability should be obvious. Part of what makes these aspects of academic language proficiency a bridge to the sentence level grammar is that they present the learner with the need to master the complex syntactical patterns of textbooks and teachers' explanations. Fortunately for L2 learners, these text/knowledge structures lend themselves well to direct instruction, together with the concepts of each subject area (Snow, 2005).

Important as these functions of language use are, Bigelow et al. point out that it would be a mistake to limit the language component of CBI for L2 learners to them. First of all, as we just saw, any sustained treatment of the academic discourse abilities takes us into the domain of sentence-level grammar, including word analysis. For second language students, the development of basic patterns, rules and constructions still to be attained should not be neglected; and subject content and its associated language functions still happen to be the best opportunity to identify remaining difficulties and plan specific and targeted grammar instruction:

- unstated arguments in the passive voice when engaging in comparison and contrast,
- nominalization in the explanation of processes,

- pronouns and the complex patterns of reference in retelling of narrative,
- patterns of derivational morphology in categorization.

Second language educators are reminded that functions can often be executed approximately (giving the appearance of being adequately expressed, especially with the help of situational context) even when the L2 learner lacks mastery of basic sentence-level grammar.

On the teacher's part, the key ingredient here is systematic monitoring and planning, keeping in mind that integration of content and language does not mean presenting the relevant learning activities to students simultaneously; "content-based" in no way necessarily implies a spontaneous, immediate and incidental focus on grammar objectives.

3. THE PROBLEM OF COMBINING CONTENT AND LANGUAGE OBJECTIVES

How can the "double task" of content and language learning be feasible? This was our third question. Discussion of the research on teaching methods is often confusing, a confusion that is unfortunately not ameliorated by the terms used to designate some of the major categories that the different methods fall under. To provide some clarity to the discussion, the first major distinction that is important to make is between all FFI approaches on the one hand and zero-grammar simple immersion on the other. In the literature, the latter is often categorized as Focus on Meaning, a particularly unhelpful term given the fact that FFI in all variants of CBI is focused on meaning in one way or another.

A second division could be made among the different approaches that fall under the broad category of Form-focused Instruction (FFI): (1) all language-focused instruction that is an integral part, in one way or another, of a content-based methodology (by design, meaning-focused because grammar learning points are linked to concept learning points), and (2) grammar-focused methods and learning activities implemented apart from (i.e. not directly and immediately related to) the academic content objectives that students are currently working on. An example of #1 would be: as part of a literature study unit on the narrative devices that authors use to help readers shift their attention to events as they unfold in a scene (content objective), the teacher provides instruction on past tense verb forms (language objective). Clearly, under this definition, instruction on the language objective would not necessarily be implemented simultaneously or concurrently with instruction on the content objective; normally, in fact, it would not be. An example of #2 would be: For homework, or as a spare time activity, students work together to solve on-line grammar puzzles and exercises on the BBC language learning website, focused on constructions that still cause them difficulty in their writing, for example. So along this dimension (contrasting #1 and #2) the difference is one of how closely aligned the language objective is to the content objective, to what extent mastery of a language objective directly supports the mastery of a given content objective. In both examples the emphasis seems to be on developing explicit knowledge through direct instruction. At the same time, during teacher-led classroom lessons or student-organized activities, language objectives might be brought to learners' attention incidentally. Typically, however, this would be more likely to occur during the meaning-focused content lesson itself (in example #1: narrative devices) or during the content-linked language lesson (in example #1: past tense). The teacher takes advantage of appropriate opportunities during direct instruction for negotiation of meaning and corrective feedback. Such incidental FFI may foster either implicit or explicit knowledge of the target language.

In this regard, Doughty's (2003) critique of the Norris & Ortega (2000) study is premature. In her discussion of the study, the author strongly questions the finding from Norris & Ortega's meta-analysis of a general advantage for types of L2 instruction that are planned and focused on specific grammar objectives over types of instruction in which the

focus on form is incidental. In addition to the overall advantage of all types of direct instruction over simple immersion, this was, in fact, the major finding of the Norris & Ortega study. Contrary to these results, Doughty appears to be arguing that incidental attention to language forms, as they arise naturally during classroom language use, is *generally* superior for all L2 learning contexts, and that researchers have overstated the case for "explicit instruction" (p. 274). Rather, the emphasis in classroom settings should be placed on creating the conditions for implicit learning during meaning-focused activities, returning "to a discovery mode of processing" (p. 299). According to this view, metalinguistic awareness and declarative knowledge are of limited usefulness in the development of competence in L2. In the literature on instructed SLA this position is associated with the recommendations of the Focus on Form approach; that instruction focused on language forms should entail temporary and brief shifts of students' attention, incidentally, as problems in comprehension and expression present themselves *during* communicative tasks. For example, the teacher utilizes the corrective feedback technique of recasting, providing a correct model in response to production errors as these arise spontaneously in students' speech.

There is good reason to believe that under some conditions these kinds of FonF corrective feedback (part of what is called "processing instruction") are beneficial as they promote noticing, a shift of the attentional resources toward interlanguage constructions (especially persistent error patterns) of which the learner is often unaware. Overgeneralizations, for example, are difficult to recognize without the benefit of negative evidence. Also, why do some L1 rules seem to carry over to the target language, and others do not? Some seem to correspond to their L2 counterpart "partially," causing the most difficulty for learners as they try to sort out which patterns can be "transferred" and which cannot. "To overcome the mismatch between the L1 strategy and the L2 input, processing instruction informs learners that the L1 cues are not reliable, and alerts them to cues in the L2 to which they should pay attention instead" (Doughty 2003, p. 288).

However, as other surveys of recent research have made clear, taken together, the findings from comparative, experimental and descriptive studies do not lead us to strongly favor any one of the FFI models to the exclusion of the others. For example, a careful reading of Williams' comprehensive review of FFI suggests an important conclusion: actual implementations of one or another grammar teaching model are difficult to separate into clearly demarcated categories, purely reactive, unplanned, incidental, meaning-embedded FonF approaches versus planned, stand-alone language lessons focused on specific grammar objectives (defined in the literature as FonFs). As Ellis (2006) points out, separate grammar-focused learning activities can also form an integral part of a larger communicative CBI program. In addition, language objectives can be taught separately *and* communicatively, despite the stereotyped version of FonFs as traditional pattern drill, translation, rule explanation and rote memorization.²

Theoretical arguments do not conclusively tip the balance one way or the other either. For example, if we accept the (well-founded) notion that L2 learning cannot simply recapitulate L1 development, because the same internal acquisition resources are no longer accessible, there is no reason to assume a blanket advantage for incidental approaches implemented concurrently with the content lesson over planned grammar instruction that is provided to learners separately. Furthermore, the question of how declarative and metalinguistic knowledge is related to the development of *second* language competence is still not well understood (unlike in the case of first language competence).

For their part, practitioners have called attention to a number of practical limitations that would potentially be imposed on teachers by a narrow interpretation of incidental FonF methods that must be implemented during meaning-focused content lessons. Also, strict applications of incidental FonF are often not feasible: (1) Corrective feedback on grammatical problems would tend to be unplanned, and it is not clear how teachers might be able to attend to language objectives systematically. (2) Restricting attention only to errors that lead to a breakdown in communication may not be the best method of selecting language objectives. (3) If teachers take to heart the condition that focus on grammar should be restricted to opportunities only when learners are engaged in a meaningful content learning activity, separate skill-building, practice, and problem solving activities focused on specific grammar patterns could be potentially eliminated. (4) There would be a tendency for grammar learning activities, of any kind, to be occasional and sporadic. (5) The assumption that recasts and other corrective feedback interventions can be provided without interrupting the course of classroom verbal interaction is far from straightforward. (6) It is controversial the extent to which learners are able to attend to the critical features of on-line oral corrective feedback in the context of the dynamic give and take of classroom dialogues, especially in large groups (Sheen, 2003; Poole, 2005).

Again, incidental focus on form, skillfully executed, should form part of the overall language teaching program. But as DeKeyser suggested, learning difficulties associated with the various domains and components of the L2 grammar are not likely to all respond uniformly to a single teaching approach. From all of the above, the more important research question would seem to be to continue to draw out the distinction between FonM and FFI *as a whole*, including all its various sub-types.

In conclusion, we return to the ideas of *combination* and *distribution* which were put forward at the beginning of the Introduction as they apply to EFL learning situations. They also apply to ESL, but less obviously. The advances of research on instructed SLA to date point in a clear direction: the underlying foundation of content-based second language instruction must be communicative. More research is also needed to understand how language objectives can be taught more effectively. Both investigators and educators should keep an open mind about which FFI methods are best suited for different circumstances and opportunities; and there is as yet no compelling evidence not to combine incidental and planned FFI strategies.

At the same time, the combination of content and language presents L2 learners with a "double task," one that curriculum designers need to address in a responsible fashion. The task of content learning through the medium of a language that students still have not mastered must be feasible, accessible to all normally developing children, not just a select fraction. The distribution of L1 and L2 medium teaching is one measure that should be considered so as to maximize the efficiency of both content and second language learning. The L1-L2 distribution concept implies that total L2 immersion that excludes the L1 from the curriculum (e.g., in K-6 EFL during the early elementary grades) is an unnecessary restriction that potentially inhibits overall academic development, at least for many child L2 learners. Wannagat (2007) alluded to this problem in his discussion of school language policy in Hong Kong. For example, allowing L1-medium instruction for beginning L2 learners in the highly context-reduced content subjects (such as Literacy and Language Arts) might result in a more rapid initial development in these "language-dependent" areas. This more robust early development, in turn, should provide for a stronger academic language proficiency platform from which the bilingual second language student can then leverage more efficient L2

learning strategies. See Echevarría & Graves (2007, pp. 14-19) for a L1-L2 distribution model, based on a proposal elaborated by Krashen & Biber (1988) many years ago.

NOTES

1. The interesting design feature of English for Academic Purposes (and all other L2 for Academic Purposes) that sets it apart is its short-term efficiency. University students and their mentors who require rapid limited mastery of a second language for the specific purpose of access to academic texts have devised highly effective language learning solutions. Since there is no conceivable developmental disadvantage to this kind of fast jumpstart in second language acquisition, there is every reason to assume that further advances in overall L2 proficiency can build upon the initial (albeit specific and limited) base of language knowledge that is attained. Consistent with the idea of integrating CBI and EAP, there might be interesting applications of the academic-specific methods of EAP for younger L2 learners in CBI. Granted, EAP depends on prior attainment of advanced metalinguistic abilities and the previous consolidation of other aspects of academic language proficiency through the students' L1, factors that cannot be assumed for young child L2 learners. But keeping this (important) caveat in mind, the general conceptions of EAP may be more applicable to K-12 second language programs than we previously had considered.

2. A procedure that has been shown to be workable and motivating in engaging bilingual language learners of Spanish in our project calls students' attention to grammar errors in their own written expression (Francis, 2005). For instructional purposes, this kind of self-correction task proceeds most effectively alternating between small group discussion and resolution of grammar problems and whole class confirmation of the error patterns and their remediation. Each cycle of reflection and self-correction begins with the teacher keeping track of error patterns in speech and writing (which of course does not preclude incidental recasting and prompting, on-line, during student-teacher exchanges). Error patterns are categorized and grouped according to frequency, salience of features, learnability considerations related to L1, relation to other problematic or facilitative linguistic features, etc. Targeted constructions embedded in series of texts are presented to students for problem solution. Texts can be either sets of anonymous samples from actual class work, mixed in with hypothetical student texts (teacher created) with concentrated exemplars of the target error patterns, or extended excerpts for the subject textbook rewritten to include the error patterns that are the object of direct instruction. Key aspects of this structured whole-class self-correction are that it is student-centered and focused on actual current areas of difficulty, and is systematic and organized. As such, attention to grammar is more likely to "pair naturally" with academic content. All students are engaged and participate, as opposed to only those happen to have been attentive during the occasional recasts or prompts that teachers direct to select individuals during class discussions. It fosters the development of metalinguistic strategies that are also central to literacy-related language proficiency and a general sensitivity toward noticing and monitoring. As a culminating activity, students return to their own text for individual editing and revision (and in pairs, if appropriate, exchanging papers). Structured self-correction of this kind that targets specific grammatical features is another example of how related objectives in CBI are combined: (1) attention to the grammatical aspects of academic language use, the conventions of writing that require reflection on word, sentence, and text-level patterns. Being attainments that correspond to the standard Language Arts curriculum for L1 learners, they represent an additional opportunity for L2 learners who can also attend to basic linguistic patterns yet to be mastered. (2) Form-focused learning for L2 learners centered on interlanguage error patterns, and (3)

development of the language learning strategies of advanced literacy (for L1 and L2 learners) and facilitation of L2 learning in general.

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