Keeping the Language Focus in Content-Based ESL Instruction Through Proactive Curriculum-Planning

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For content-based instruction (CBI) to work to its maximum potential, a concerted planning effort must be made to address language objectives, combined with effective instructional strategies that target and assess student performance in relation to those objectives. In this article, after considering various models of content-language integration, we propose a flexible and dynamic planning model for content-language integration. This model has been helpful in our work with ESL teachers learning to conceptualize lesson planning and curriculum development using CBI across a variety of K-12 settings. Examples implementing the planning model are provided using a curriculum about Arctic exploration and Inuit cultures.

Pour exploiter le plein potentiel de l'enseignement basé sur le contenu (EBC), il faut mettre de l'avant un effort concerté visant les objectifs langagiers ainsi que des stratégies pédagogiques qui ciblent et évaluent la performance des élèves par rapport à ces objectifs. Après avoir étudié divers modèles de planification pour l'intégration contenu-langue, nous en proposons un qui est souple et dynamique. Ce modèle s'est avéré utile lors de notre travail avec des enseignants en ALS qui apprenaient à intégrer la planification de leçons et le développement de programmes d'études s'appuyant sur l'EBC pour divers contextes de la maternelle à la 12ᵉ année. Un programme d'études portant sur l'exploration dans l'Arctique et les cultures inuites sert d'exemple de mise en œuvre du modèle de planification.

Introduction

English as a second language (ESL) teachers in many settings are taking on new roles in their schools that require them to work with academic content. ESL teachers often work alongside content or grade-level teachers to deliver academic content to English language learners (ELLs) in inclusion settings, or they may be using texts and content designed for native speakers in their stand-alone ESL classes. Perhaps they teach their own sheltered-content class or collaborate with a grade level or content teacher in one. This movement toward including content in language instruction helps to meet the crucial need to prepare ELLs for mainstream academic content instruction or include them in mainstream settings (Collier, 1989; Echevarria, Vogt, & Short,

2004; Genesee, 1987; Gibbons, 2002; Snow, Met, & Genesee, 1989). Neverthe-less, the omnipresence of grade-level academic content in the curriculum materials used in ESL can blur the lines between the roles of a content teacher and a language teacher (Pica, 1995). In this article, we argue for the need for ESL teachers to maintain a strong hold on their role as language teachers. To this end, we propose a curriculum-planning model for ensuring the in-clusion of intentional and meaningful language instruction when the ESL teacher is designing language instruction through content. This model presumes that a content theme has already been chosen and offers three points of entry into CBI: the content materials or tasks, the language function, and the linguistic structure, with the point of entry depending on the cir-cumstances of the instruction. The model includes a flexible process of mov-ing between these three points in order to ensure that all are included and closely linked in the curriculum and instruction. The model also includes language learning strategies as a means to move between the three points of the model.

The planning model proposed is inspired by the challenges ESL teachers face when they teach language through content and seeks to offer teachers a tool to aid in their planning for integration. This model is a proposed solu-tion to the common and understandable occurrence that deliberate attention to language (e.g., syntax, pronunciation, vocabulary) is often lost when in-struction shifts its curricular lens away from a language-driven syllabus to a content-based syllabus, a phenomenon that has been recognized in the CBI literature for some time now (Met, 1991; Snow, 2001; Short, 2002; Stoller & Grabe, 1997). Integrating grammar into content may be a new way to teach for many ESL teachers and one in which few have had first-hand experiences as classroom language learners themselves, much less situated mentoring in teaching this way. CBI often calls on teachers to rework their notion of grammar instruction from being an adjunct to content to being closely tied to content (Short). In addition, just as it is difficult for language learners to attend to language and content simultaneously (VanPatten, 1990), it seems difficult for teachers to focus explicitly on content and language in instruc-tion simultaneously. To lessen the cognitive load of this work, we have seen that teachers sometimes devise parallel tracks where traditional grammar is taught alongside thematic content, as in dividing the lesson between the present perfect tense and the content theme. Although the addition of a content component will make the ESL class more engaging, this parallel-track approach fails to bring content and language together because the chosen grammar points do not reflect content-related language, making it difficult for students to apply their study of language to actual uses outside class (Larsen-Freeman, 2001) or to capitalize on connections that may exist with other classes. This parallel approach compartmentalizes bottom-up and

top-down language processing, thereby working against the interactive potential CBI affords students.

In order to achieve integration and balance, planning is essential. Met (1991) advocates for planning when she says, "It is inappropriate to assume that desired levels of proficiency and accuracy will emerge miraculously from content lessons taught in a second or foreign language" (p. 285), and Master (2000) concurs by saying, "It is ultimately the CBI instructor who must make sure that grammar is sufficiently covered, both in terms of range and explanation" (p. 102). Proactive planning, however, does not preclude teachers addressing language issues as they arise in a content-based lesson as in giving corrective feedback, but it ensures that language instruction does not totally depend on spontaneous opportunities.

Another by-product of the demands of CBI that we often witness is that teachers may formulate sound language objectives in a CBI lesson, but fail to address them as the procedures and assessment of the lesson unfold. Avoiding the stark division of language and content requires formulating contextualized language objectives and ensuring that they are addressed in the lesson procedures. Sometimes the language objectives are assumed to be met by the mere appearance of language forms in some of the materials, but we do not believe that this is sufficient. For example, if a lesson objective is to focus on conditional sentences, we do not consider the form sufficiently taught if the lesson asks students to read a paragraph where conditionals incidentally appear. Although it is possible that learners may incidentally notice (Schmidt, 2001) the structure of conditionals, our position is that the teacher may need to be more proactive in directing or attracting learners' attention to the new form (Doughty & Williams, 1998). Deliberate planning is essential for balance and integration in CBI.

Review of CBI Models

The shift in paradigm from a structural syllabus to CBI left many open questions about how and when language should be explicitly addressed in instruction. Although CBI may have begun as a rather amorphous approach with vague notions of learning language through content, it has over the years drawn the attention of many researchers who have analyzed more clearly delineated components that are or should be present in CBI instruction.

The concept of language functions has been at the forefront since early theoretical conceptualizations of CBI, as in Mohan's (1986) seminal framework for underlying knowledge structures, an organizing framework for developing language and content thinking skills across the curriculum. Mohan was one of the first to urge the careful analysis of language needed to perform functions across the curriculum and the importance of using visual

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representations to facilitate students' understanding of both the language and the content.[1]

In the area of linguistic analysis, functional grammar (Halliday, 1985; Lock, 1996) emphasizes the close link between forms and meanings and the choices that language provides to fulfill any given function, as well as how meaning changes with syntactic and lexical choices. Thinking about language in this way can provide an impetus for teaching language forms in conjunction with meaningful content and with functions in mind. As Lock points out, functional grammar and focus-on-form techniques provide ways to include language instruction in meaningful communicative instruction, thus filling the gaps of structural grammar teaching, which focused narrowly on the forms in isolation, as well as communicative language teaching, which has sometimes rejected any explicit attention to grammatical forms in instruction. A functional grammar approach can be used for analysis of academic texts used in content-based approaches, as in a recent study by Schleppegrell, Achugar, and Oteíza (2004) in which they deconstructed the language of history texts. This approach holds much promise as a tool for analysis of dense academic texts, although the authors warn that it would be overwhelming for teachers to carry out such detailed analysis for the whole text.

Another useful analytic tool for language structures is the well-known pie chart for linguistic forms developed by Larsen-Freeman (2001). This pie chart encourages analysis of grammatical structures in terms of the formal aspects, the meaning of the structure, and the use of the structure in context. These approaches to linguistic analysis demonstrate that decontextualized structural instruction is not faithful to how language structures are used, as well as being ineffective in fostering language acquisition.

Language functions also came to the forefront of planning for instruction with the development of the CALLA approach (Chamot & O'Malley, 1994) and with TESOL's (1997) development of *ESL Standards for Pre-K-12 Students*. CALLA conceptualizes academic language in terms of functions.

> In our view, academic language consists primarily of the language *functions* needed for authentic academic content. Academic language functions are the tasks that language users must be able to perform in the different content areas.… academic language involves using language functions such as identifying and describing content information, explaining a process, analyzing and synthesizing concepts, justifying opinions, or evaluating knowledge. (p. 40)

Similarly, TESOL's formulation of standards relies exclusively on language functions in its identification of specific targets for language instruction through the descriptors (e.g., persuading, arguing, negotiating) used to elaborate the meaning of the broader goals; no language structures are

specified. However, the academic language that ELLs need to master is characterized not only by language functions, but also by the use of complex syntax and vocabulary in carrying out these functions.

A functional grammar approach expects teachers to analyze how language functions may be performed with various structures, with the assumption that the choice of structure influences meaning (Halliday, 1985). Gibbons (1991) notes that "within any of the language functions there are many ways of expressing a similar idea" (p. 15) and that the choice of wording affects meaning by changing the focus. She further argues that learners may be limited by being able to express functions in one way only, whereas academic language demands access to complex ways of performing language functions. Her framework for CBI addresses this issue by including separate categories for both language functions and language structures, along with topics, activities, and vocabulary. The framework posits these categories as parallel lists that are connected through slots, as in the sentence: "The topic ____ includes these activities ____ which require these language functions ____ which will be modeled using this language ____" (Gibbons, 1991, p. 19).

Others have also proposed models for analyzing instruction in CBI and ensuring that both language and content are included. Snow et al. (1989) proposed a conceptual framework in which language-learning objectives have three sources: the ESL curriculum, the content area curriculum, and assessment of learners' academic and communicative needs and ongoing evaluation of their language skills. These lead to two types of language objectives: content obligatory and content compatible; the content obligatory objectives focus on the grammar, vocabulary, and functions necessary to learn the content of the lesson, and the content compatible objectives focus on other language items that may be used in the lesson, but are not essential to learning the content.

Short's (2002) model serves to show researchers and practitioners how intertwined and multidimensional the many aspects of CBI as carried out in sheltered content settings can be. Short conceptualizes CBI in three overlapping circles: Task, Content (social studies in this case), and Language. In this framework, content includes both the subject area content and cognitive learning strategies; language includes forms, functions, and language learning strategies; and task refers to content tasks that help students practice or apply content knowledge. This model adeptly captures the complexity of the areas that need to be included in CBI.

Operating from a foreign language perspective, Curtain and Martínez (1990) suggest a planning process where teachers consider "(a) the language skills needed by the students, (b) the content skills that will correlate with the language skills, and (c) the cognitive skills that are necessary to complete the lesson" (p. 204). They recommend beginning with identifying language

needed for the particular subject area and then planning hands-on tasks for helping students understand the content concepts. This advice seems particularly appropriate for foreign-language teachers. However, in ESL settings, the planning process must be much more flexible given the frequent need to begin with content materials.

A blueprint for teaching English language development that focuses on ESL classes operating alongside sheltered content was developed by Dutro and Moran (2003). Their model helps practitioners envisage language learning in stand-alone ESL classes or in content instruction where there is front-loading (preteaching) of language prior to the content lesson, as well as advice to take advantage of teachable moments during content instruction to fill specific needs for words or ways to express ideas. In their framework for ESL instruction, they list three main design features: function (related to task), forms (tools for carrying out the task), and fluency (opportunities for practice and application).

From this brief review of some of the more prominent models and frameworks, it is evident that the thinking in the field about CBI has progressed from vague notions of learning language through engagement with age-appropriate academic content to a more clearly determined analysis of what CBI involves and how to plan for it. The issue of balance between content and language in CBI has received a fair amount of attention, and several components have been identified repeatedly in these frameworks: content tasks and activities, language forms and functions, vocabulary, and learning strategies. There seems to be some degree of consensus that these components are important and should be in balance with each other and that planning for CBI entails an analysis of the intersection between linguistic needs and content materials and activities. The frameworks differ in the precise conceptualization of the components of CBI and their interrelationship to each other. The concept of language varies from being represented as predominantly language functions (Chamot & O'Malley, 1994); TESOL *Standards* (1997); or composed of functions, structures, and vocabulary that are either visualized as parallel lists (Dutro & Moran, 2003; Gibbons, 1991) or joined in a single category (Short, 2002; Snow et al., 1989). There are also variations in how the process of planning is conceived—starting from content in some and from language in others.

Our connections model of language and content integration arose from dialogue with ESL teachers and among ourselves and has been used in preliminary collaboration with practicing ESL teachers. The Connections Model is our way of conceptualizing a CBI model that has the flexibility needed to facilitate language teaching in a range of settings and may work to address the challenges CBI has faced in the past, namely, losing the language as content objectives predominate in the instructional process. This model has benefited from the work that has gone before on CBI, but organizes the

elements somewhat differently in order to address the need for ESL instruction not only to address both language and content, but to adapt to a variety of contexts. In addition, we strove for simplicity in order to facilitate teachers' planning for the complex challenges of CBI.

The Connections Model: A Model for Planning Content-Based Instruction

We see three principal and interwoven elements in any contextualized language lesson: the content, which encompasses the content texts and the tasks that students are asked to perform as they engage with the content; the language functions that are present in the content texts and that students carry out in the tasks; and the language structures, including grammatical forms and vocabulary that can be found in the content texts and that are used in the process of accomplishing the task and performing the task-based language functions. The relationship between structures and functions can be described as one where a structure represents the linguistic or grammatical form in an utterance and the function denotes the functional intention of that structure, its meaning, and use (Larsen-Freeman, 2001; Sinclair & Coulthard, 1975). Our model posits a dynamic relationship among these three elements, with learning strategies connecting the corners of the triangle, which we call bases.

Under academic language structures, we include grammar, vocabulary, and text organization as distinct but interrelated language structures even though other models of integration (Dutro & Moran, 2003; Gibbons, 1991) separate grammar and vocabulary. Although language *forms* have generally been assumed to focus on formal aspects of morphology and syntax, the workings of particular grammar *structures* depend heavily on lexical features, as in the interplay between the stative/active features of verbs and the use of the progressive aspect (e.g., the ungrammaticality of the progressive aspect with stative verbs such as *to know*). Halliday (1985) makes the point that syntax and vocabulary form a "lexicogrammar", and Celce-Murcia and Larsen-Freeman (1999) argue that grammar and lexicon are linked at opposite ends of a single continuum. For example, one can hardly teach the grammatical features of prepositions, adjectives, or logical connectors without teaching the meanings of the words that fall into those categories. Teaching vocabulary by building word families (i.e., beauty, beautiful, beautifully) involves attention to the grammatical uses of morphology, whereas teaching grammar meaningfully must involve some attention to semantic features of words such as count/non-count nouns. We also include text organization such as discourse patterns of reference and paragraph organization in the category of structures because they are formal patterns of the language, albeit on a broader level than the sentence.

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On the other hand, we chose to separate language functions and structures in recognition that both are distinct yet essential aspects of language. Although it is true that the two must inevitably be linked, as it is not possible to perform language functions without language structures, there is a danger in simply assuming that academic language structures will be taught if one plans to teach only language functions. In our experience, when language is conceived as functions only (as in the TESOL *Standards*), specific attention to the forms used for those functions is often overlooked, so it can become difficult for teachers both to ensure that students develop the complex structures that are part of academic English and to integrate grammatical instruction in meaningful content. Alternatively, without considering both language structures and functions, the language structures that teachers often choose do not relate to the content meaningfully because teachers have not considered their connection if any to the main knowledge structures in the text, manifested in language functions, which comprise the main meaning of the text. We also did not want to lump structures and functions together in one category because we saw that teachers would then pick and choose either one in their planning without necessarily making connections between them. Although other models (Dutro & Moran, 2003; Gibbons, 1991) include both language functions and language structures as separate categories, they present them as parallel rather than of interactive categories. In practice, teachers may make the links between these categories when using these models, but we have also seen instruction that targets language functions and structures disjointedly, and we wished to devise a model this addresses that problem through planning processes.

A key feature of our model is what lies between the three main components: double-headed arrows and strategies. The use of arrows signifies that the components need to be closely linked to each other and that teachers should consider each element of the model in relation to the other parts. In effect, it asks teachers to go back and forth between content, language functions, and structures so that they all align well. The strategies are placed along the arrows to indicate that learning strategies provide links between the various components. Learner strategies can and should be explicitly taught, but not simply as a body of knowledge to be mastered. Rather, they provide the means for moving from one type of knowledge to another. Again, it is especially important for teachers to make the connections between learning strategies and the language structures, language functions, and content.

To illustrate the three elements, consider a lesson in an ESL class on the topic of pollution. The teacher could start to plan by thinking about content and moving from there to functions and then structures. A typical *content* task would be for students to write a report about the effect of water pollution on marine animals. The report would require the use of academic

language functions such as describing a condition and explaining cause and effect relations. As explained above, any function is carried out through the language structures, and cause and effect could be expressed through a variety of structures such as logical connectors (because, so, as a result) or verbs (cause, resulted in), as in "Water pollution may harm marine animals because it can kill their food source." We include vocabulary, sentence-level syntax, and the larger discourse level (e.g., paragraph, essay organization) in this category. Moving to strategies, students could be guided to use any number of strategies to move through the lesson (for lists of learner strategies, see Chamot & O'Malley, 1994; Chamot, Bernhardt, El-Dinary, & Robbins, 1999; Oxford, 1990; and goal 3 of each of the TESOL *Standards*). For example, they could be taught to use the strategy of selective attention by looking at examples of sentences in a text about pollution with logical connectors and paying particular attention to patterns involving the use of logical connectors to express cause and effect. In this way, students could be taught to use the learning strategy of selective attention to move from structures to functions within the content theme. These components are captured in the model depicted in Figure 1 and serve as an aid to lesson planning that integrates all three aspects.

The model is adaptable to many planning scenarios because any of the three bases could serve as an entry point to the process of planning a lesson.
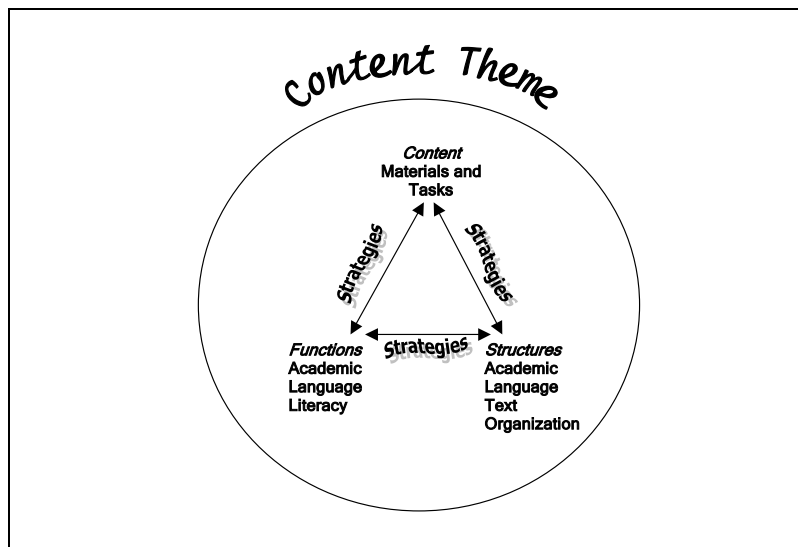

Figure 1. The Connections Model: A flexible planning model for content and language integration in CBI.

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For example, in CBI, teachers often begin their planning by designing a language-learning activity or task around the content. In order to ensure that there is attention to academic language development, the teacher could move from this point on the model to consider more deeply the structure and function points of the model. It is possible that teachers could engage the use of academic structures and functions simply by virtue of having chosen a strong language learning task. However, it is also possible that students who lack sophisticated academic language will accomplish the function minimally using their current language abilities, thus losing an opportunity to push their linguistic development through scaffolded instruction that urges them into their zone of proximal development (Vygotsky, 1986).

Teachers who wish to plan some lessons to address some of the language difficulties they have noticed in their students are likely to come into the model via structures. The model can remind teachers to connect structures to content and functions as a way of expanding lessons to ensure a meaningful, content-based context for the language objectives. The model assumes that language needs can be a starting point in a theme-based curriculum, much as in Snow et al.'s (1989) framework. This planning model attempts to help teachers conceptually and practically with the integration of these aspects of language teaching in a more holistic, sustained, and balanced way by keeping the linkages between structures, functions, and content at the forefront of teachers' planning processes. It also aims to encourage a sustained content focus in ESL instruction by always connecting the structures and function with content.

The model also responds to a danger inherent in instruction that relies solely on functions or content. One may assume that if we plan challenging tasks and target appropriate academic language functions, the language will naturally follow; however, as stated above, it is possible for most tasks or functions to be carried out with a minimum of language and certainly without academic language (compare Gibbons, 1991). For example, the function of persuasion could be carried out with a reasoned argument expressed in sophisticated language or it could be expressed in a simple phrase such as "You should believe this." Furthermore, starting from the academic functions targeted in the TESOL *Standards* does not guarantee that the lesson will advance students' academic language skills because language functions such as describing, explaining, and asking questions are also performed in social conversational interaction using basic language structures.

Applications of the Planning Model to a Content-Based Unit

To illustrate the use of the model, we present below a series of lesson ideas based on authentic content derived from an actual adventure learning curriculum that was designed for use in mainstream classes, but that has also been used in ESL classes. We illustrate these lesson ideas by departing from

each of the three bases during our modeling of the planning process, that is, content, functions, and structures. This curriculum was developed to follow an expedition team as they crossed the Arctic on dogsleds in 2003-2004. The team posted reports on a Web site that could be accessed by classrooms, and the developers also provided extended materials and Web chats for instruction in topics such as the language and culture of the Inuit people, the Arctic climate, and the natural resources of the area.

Moving from Content to Functions and Structures

For classes that are driven by content (e.g., a sheltered-content class), perhaps the most common starting point in CBI is a content-based text or task. We define *task* broadly as any kind of engagement with the content that encompasses a beginning, middle, and end: a bounded unit of sorts. Tasks can be based on any of the modes or a combination thereof. For example, tasks can focus on comprehension of a text or on completing a group activity. We illustrate this with a sample text and task from a chapter describing the Inuit (*Arctic Transect*, Doenng, 2004, Unit 4).

> *Sample Text*
> *Seasonal Travel.* Traditionally, the Inuit lived in small groups of related families. Communities were located close to important seasonal hunting grounds. Living and surviving meant traveling to find and harvest animals. Families moved inland in the fall to hunt caribou. Later, during freeze up, they fished for arctic char. Seal hunting was done in winter and spring along coastal areas and summer meant finding bird eggs.
> (p. 2)

Academic work typically presents texts such as this for students to read and draw information from. This particular text may present some challenges for English language learners due to the use of language structures that are found more commonly in academic language than in less formal contexts. For example, the text uses the passive voice (*seal hunting was done*), nominalization through gerunds (*living and surviving*), and a complicated pattern of reference with several nouns and pronouns referring to the Inuit. In order for students to draw meaning from this written text, they may need some instruction targeted to these language structures.

A teacher following our planning model could start from the *content text* as a point of departure, consider the *function* of gaining information or more specifically identifying what the paragraph is mainly about, and then choose to focus on the *structure* of reference in this discourse. The teacher would then plan instructional strategies to scaffold students' understanding that the *Inuit, communities, families*, and *they* all refer to the same group of people and that sentences three and six ("Living and surviving meant traveling to find and harvest animals" and "Seal hunting was done in winter and spring along

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coastal areas and summer meant finding bird eggs") imply the Inuit as unstated agents. The teacher could plan to use the instructional strategy of mapping the pattern of reference through guided reading. To help students understand the structures of passive voice and nominalization in "seal hunting was done in winter and spring," the teacher could instruct students to use *learning strategies* such as activating or cultivating background knowledge to understand that hunting is done by people rather than seals and could instruct students in the strategy of visualizing by making graphic organizers in mapping out the pattern in the sentence. Thus the teacher identifies the content (the analysis of the given text) and then the functions (identifying the main actors in the text) and then the structures (text pattern of reference) using instructional strategies of mapping and guided reading. Students would move from content to functions to structures using learning strategies such as drawing on background knowledge to help them interpret the structure or using visuals such as constructing a map of the pattern.

Starting from a *content task*, we use an example from the *Arctic Transect* (2004) curriculum guide that asks students to read about and create a list of items that people need in order to survive in nature (e.g., positive mental attitude, air, warmth, shelter, rest, etc.). After this, the teacher hands out various hypothetical survival situations on slips of paper and asks students to discuss in their groups what they would do if they were in that situation. The *function* of hypothesizing (a function in Goal 2, Standard 2 in the TESOL *Standards*) is evident, and from there the teacher can plan for instruction on *structures* such as the unreal conditional that could be used to hypothesize. An example of this form is "If I were stranded in the Arctic, I would need shelter." Before letting students begin their discussions, the teacher could draw their attention to the use of the conditional in describing unreal, hypothetical events and provide some initial practice. This step in the planning and instruction process would ensure that students are able to accomplish academic functions and develop competence in academic language. Without this step, there is the possibility that students accomplish the function with a low level of language, but are not pushed toward using more sophisticated academic language. Students could then be encouraged to use the *strategy* of deduction in applying the rules for unreal conditionals in their discussions, as well as the *strategy* of cooperation as they work in groups giving support to each other as they construct hypotheses using appropriate conditional forms.

Moving from Structures to Content and Functions

ESL students often have trouble with word endings, both in terms of grammatical and derivational morphology. We consider this linguistic need to illustrate the path from structure to content and apply it to the above sample text. A teacher could decide that students need instruction on word families

and then note that this text contains two examples of adjectives related to nouns (i.e., coastal, seasonal). Using this content text to provide instruction on the linguistic target, the teacher could modify the text by highlighting the targeted words and asking students to use the strategy of inference to make the connections between those adjectives and the related nouns. The vocabulary could be practiced in a content task asking students to describe the Inuit lifestyle using these and other adjectives generated from the activity.

Teachers may choose to start at the entry point of structures for several reasons. They may wish to provide instruction on common problem areas of ELLs of particular first languages (Swan & Smith, 1991) so that they can choose texts and tasks that provide models and practice with these forms. In addition, it is important to consider not only errors, but also the structures that students lack or seem to avoid. For example, students who write short, choppy sentences rather than using the complex sentences that are typical of academic language could benefit from instruction in forming relative clauses or other complex sentences. Another impetus for a focus on particular linguistic forms would be to meet specific language goals that are established by the school district, department, or the teachers themselves. It is important that teachers examine the anticipated linguistic demands of content curriculum in which students are or will be enrolled (Met, 1994). For example, students may need to speculate and infer in social studies class, which creates a good context for learning conditional sentences (e.g., If the northern states had agreed to allow the south to secede, the civil war would have been avoided). Once the grammar structure is targeted, teachers may consider where they could add some instruction in these areas in the context of the content they wish to teach. For example, the grammar objective of "use comparative adjectives correctly" may be integrated with a lesson on measurement or reading graphs in math, and question formation can be integrated into a research activity in social studies.

Moving From Functions to Content and Structures

Functions can provide the point of departure when teachers use the TESOL *Standards* or similar standards as well as when starting from some content texts. We have found that academic language functions are often articulated in many curriculum materials because they are inherent in many objectives and tasks that are presented. For example, some content textbooks list student objectives such as "Students will *compare* and *contrast* two forms of reproduction." Tasks designed for students also often embed functions, as in directions such as "*explain* the scientific method" or "read the paragraph and *predict* what will happen next." In addition, content-area texts are a logical place to see how academic language functions are realized. Thus linking language functions with academic content is generally not problematic.

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However, linking content and functions with specific structures takes some additional planning that is often neglected in CBI. All functions are performed through linguistic structures, but in order to promote their expression with advanced academic language, it is helpful to plan to focus the learners on the key structures that they will need to develop proficiency in academic English. To make this link, teachers can observe students carrying out the task effectively and note the language used. For example, in order to perform the function *seek information*, students need to know how to form *wh*-questions. To carry out the function of *compare*, they may need comparative structures and logical connectors such as *on the other hand* or *unlike*. To *order* things, students need to know verb tenses, especially present and past perfect, as well as relevant transition words such as *next, after that*, and so forth. The function of *infer* may be carried out with conditional sentences or with modals such as *may, could*, and *might*. It is important that the teacher ensure, by anticipating during the planning phase, the presentation of a variety of language structures that can be used to carry out a certain language function in order to enable students to practice with higher-level language structures that are typical to academic discourse.

Applying the planning model to our sample curriculum, we consider the example where a teacher has chosen to focus on the function *retelling information*, which is a progress indicator for Goal 2, Standard 2 in the TESOL *Standards*. Using this function as the starting point on the model, the teacher can link it to content and structures in the context of Unit 3 from *Arctic Transect* (2004). The first part of Unit 3 describes the Inuit throat-singing tradition, and the second part is an interview with a famous Inuit throat-singer. The *task* outlined in the curriculum involves a jigsaw reading activity where students work in groups of three or four to read their assigned half, and then present an oral summary of the text to another group that has not read the same information. The group listening to the summary is prompted to ask questions. Thus the task that is offered in the curriculum offers an ideal opportunity for practice with the academic language functions of retelling, summarizing, and asking questions. Going from functions to *structures*, the function of retelling information could lead to the use of indirect speech structures as in "In the Web chat, someone asked if the expedition team had seen a polar bear during their trek." The function of asking for information leads obviously to the structures of yes/no or *wh*-questions. Depending on students' proficiency levels, teachers could also introduce other structures of academic language such as the use of noun clauses in giving information, as in "Living and surviving meant that they had to travel to find and harvest animals." Various *learning strategies* could be applied in moving between the bases of functions and structures as students are challenged to try new structures. For example, students could be encouraged to use the cognitive strategy of practicing naturalistically and the metacognitive strategy of self-

monitoring (Oxford, 1990) as they prepare for and carry out their retellings. As we discuss above, these functions could be performed using simpler structures or using the structures inaccurately. If the planning stops at the level of functions, the students might be able to achieve the lesson's objectives without advancing their ability to use academic language. However, if the teacher is conceptualizing the lesson as providing an opportunity to develop academic language structures as well as to practice language functions, he or she can plan to provide some modeling and scaffolding of advanced structures.

What would this approach look like in terms of a syllabus?
Language curricula have passed through many trends, each with a single focus (i.e., the grammatical syllabus, the notional-functional syllabus, the task-based syllabus). CBI calls for a balanced approach between language and content (Nunan, 2001; Stoller, 2002). The starting point in CBI is often content, yet content is a vehicle for language instruction rather than the end in itself, and CBI is sometimes practiced without explicit language instruction. However, we argue that a setting where students are expected to learn language and content needs to make space for deliberate attention to language structures and functions: spaces where it is possible to "teach English, not just teach *in* English" (Dutro & Moran, 2003, p. 228). Often this would involve simply thinking more deliberately about the tasks and texts used in teaching the content or making sure that language objectives are assessed. But it also involves sometimes starting from the language needs of the students and fitting the content to them, as in noticing the errors or omissions in students' output and planning a lesson to address them, or noticing that students have difficulty processing written texts with complex structures.

CBI differs from the grammatical syllabus in that the grammar points would be selected and ordered based on both language and functions that emerge from the content and the students' language learning needs, so they may not seem to follow a linear order from simple to more complex forms. Rather than an ordered list of grammatical items to be taught linearly, grammatical structures in CBI would be taught in a cyclical pattern, with forms being introduced, revisited, and practiced on an ongoing basis as they fit in with the content and functions that are taught. In order to ensure that important structures receive adequate attention, teachers could keep lists of structures that have been taught or check off structures taught from another set of curricular guidelines. More challenging to keep track of are structures that the students are not yet producing. Students can also participate by keeping their own grammar/vocabulary logs and portfolios that track their language development and point to areas that need attention. Specific pedagogical tools for grammar instruction should be varied and include a range of corrective feedback techniques as well as task and text modifications (e.g.,

input enhancement, input flood, input processing tasks, Doughty & Williams, 1998).

This more fluid approach to grammar allows naturally for integration with content. Once teachers see that grammar can be included without having to dominate or direct the flow of content instruction, it will become easier to overcome the problem of grammar being omitted from CBI or taught on a parallel but disconnected track. In addition, strategy instruction should be integrated into the content and language components so that it is seen as a means to learn and connect the various components, rather than an additional set of procedures to be mastered.

Collaborative Curriculum Development

The Connections Model is designed to be used by ESL teachers planning alone or in collaboration with content teachers. Although this type of collaboration can be beneficial, there is a risk that the content curriculum will dominate and leave little space for language development goals and assessment. As noted above, the common tendency of teachers to simplify content lessons so that they are comprehensible does not guarantee language development. In a collaborative team, the ESL teacher needs to focus on ensuring that attention is paid to the development of academic language proficiency. All too often ESL teachers are called on to simplify tasks and texts for ELLs rather than to work with ELLs on the skills they need to cope with challenging tasks and texts while producing more and more complex grammatical structures. Although simplifying language may be a worthy goal, ELLs also need to develop language skills and learning strategies that they can use eventually to access unmodified material (Kinsella, 2002). Oversimplification can hinder learning because students are not exposed to advanced grammatical structures and do not receive instruction in them either.

Some curriculum development teams may find it helpful to start from the functions targeted in the unit. Functions can serve as common ground between content and language specialists because they describe what students are expected to do with the content and with language on a general level. Other starting points can be the givens in the content course. Givens may be the textbook that the teacher is going to use or assignments and projects that are main parts of the culture and tradition of the course. With this information, language specialists can discern what lexical, syntactic, and discourse skills are needed to carry out the task and scaffold English language development accordingly. In this way, the expertise of all involved is used. No matter how the specifics of collaboration work, the Connections Model can help ensure that language instruction is given its due place in CBI and is contextualized in content.

Conclusion

The Connections Model is distinguished by the proposal that in order to achieve a balance between content and language in the curriculum, it is necessary to unpack the language objectives into structures and functions, and carefully tie these objectives to content. Teachers may find that the model asks them to think more about language than they expected. This is intentional. Given the tendency for content to overshadow language objectives in most types of CBI programs, we ask teachers to lean slightly toward the side of language during the planning processes in order to guarantee that language is not lost as the instruction unfolds. At the same time, the model serves to remind teachers to focus on all three aspects of CBI and the connections between them. Again, the emphasis of the model is on trying to restore balance and integration rather than allowing instruction to focus narrowly on one aspect. The model makes the consideration of language more thorough and pushes instruction so that students will expand their repertoires of forms. By investing in this type of planning, where content and language are taught together and where conceptualization of language objectives does not stop with language functions in isolation from structures, teachers can ensure that learners will be better able to make form-meaning connections as they learn academic content in their new language.

Engaging ELLs in activities that promote form-meaning connections through academic content requires teachers to develop a range of pedagogical skills. Specifically, it requires well-developed language awareness including the ability to analyze language structures that are present in authentic texts and the language ELLs produce. It requires the ability to see connections between content and language and between various aspects of language such as structures and functions. Because CBI is an approach that most teachers still have not experienced in their own language learning histories, and because it is not easy to analyze and synthesize curriculum in this multifaceted way, teachers will need many opportunities for guidance and practice with this approach. We offer this planning model as a tool to draw on in the process of practicing CBI such that it fulfills its potential for developing language proficiency that meets the needs of ELLs who are under tremendous pressure to learn academic language and content quickly and successfully. One of most important specialties ESL teachers bring to their work is their knowledge about language. They need to use this professional knowledge in new ways to meet the challenges of teaching in changing contexts and to ensure that their students are supported in their language development.

Note

[1]According to Mohan (1986), activities are core to the knowledge framework in that they serve to provide opportunities for learners to develop skills through an expository approach that is

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verbal and explicit. Mohan's notion of the central role of task in language teaching and learning was taken up with great vigor in the field in the late 1980s and early 1990s (Crookes & Gass, 1993; Candlin & Murphy, 1987; Nunan, 1989).

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