Content-Based Instruction

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Abstract

Content-Based Instruction (CBI) has been found to be an effective approach to teaching English as a second language because with CBI, students can develop their language skills as well as gain access to new concepts through meaningful content. This paper reviews general information about the features of CBI, including its theoretical foundations and models. The paper also covers several issues to be considered in the application of CBI such as assessment of language and content, teacher education, and the use of CBI in the EFL classroom. The relationship between CBI and skill-based instruction, particularly in the teaching of writing, will also be discussed. Finally, I suggest that CBI can fit in well with broader principles of language teaching and learning in both ESL and EFL situations.

Introduction

Content-Based Instruction (CBI) has been defined as "the teaching of content or information in the language being learned with little or no direct or explicit effort to teach the language itself separately from the content being taught" (Krahnke, as cited in Richards & Rodgers, 2001, p. 204). This teaching approach is considered by many researchers an effective and realistic teaching method in terms of combining language and content learning. According to Crandall (1999), CBI can be used in various ways depending on the skills being taught and includes not only traditional teaching methods such as grammar-based instruction or vocabulary development but also contemporary approaches such as communicative language teaching and humanistic methods (p. 604). CBI is also supported by Krashen's "Monitor Model": if students are given comprehensible input, it is less difficult to learn the target language, and as a result, they can acquire (verses. *learn*) it. Krashen (1982) emphasized ways of decreasing learner anxiety, such as providing interesting texts as well as meaningful activities, which are comprehensible to learners, and CBI has the following essential features: "learning a language through academic content, engaging in activities, developing proficiency in academic discourse, fostering the development of effective learning strategies" (Crandall, p. 604). Thus, this methodology puts emphasis on "learning about *something* rather than learning about *language*" (p. 604). There are several issues which teachers should consider for an effective use of Content-Based ESL Instruction, including types, syllabus design, and materials of CBI (Davies, 2003).

Theoretical Foundations

Content-Based Instruction is based on three main theories of language: "language is text- and discourse-based," "language use draws on integrated skills," and "language is purposeful" (p. 208). First, in Content-Based Instruction, language teaching focuses on how information and meaning from meaningful content are utilized in discourse or texts, not in single sentences. Next, the skills of the target language are not separate from each other, and they together are involved in all activities. For example, students in CBI are supposed to "read and take notes, listen and write a summary, or respond orally to things they have read or written" (p. 208). Moreover, grammar is considered a component of all language skills, not a separate one for language learning. Lastly, using language is always for a certain purpose, and a key purpose of using language is to communicate meaning (pp. 208-209).

According to Richards and Rodgers (2001), "language is purposeful" (p. 208). When learners have purposes, which may be "academic, vocational, social, or recreational," and concentrate on them, they can be motivated depending on how much their interest can be in their purposes (p. 208). Language also includes the main purpose,

communication. To give students comprehensible input for their purposes, teachers have to ponder how teachers would be able to communicate with students in the target language. Stryker and Leaver (1993), as cited in Richards and Rodgers (2001), suggested that teachers use the following examples:

> Foreigner talk or modifications that make the content more understandable: modification includes simplification (e.g., use of shorter T units and clauses), well-formedness (e.g., using few deviations from standard usage), explicitness (e.g., speaking with nonreduced pronunciation), regularization (e.g., use of canonical word order), and redundancy (e.g., highlighting important materials through simultaneous use of several linguistic mechanism. (p. 209)

The views above are the foundations of Content-Based Instruction, and the theoretical importance of CBI is that through CBI learners can "interact with authentic, contextualized, linguistically challenging materials in a communicative and academic context" (Richards & Rodgers, 2001, p. 4). CBI promotes three theoretical foundations: Krashen's comprehensible input hypothesis, Cummins's two-tiered skill model, and cognitive learning theory, which will be explained below.

Krashen (1985) explained the difference between *learning* and *acquisition*: even though both terms are used to describe second language skill development, acquisition is more closely related to the process of first language development, while learning is often the case for second language development (p. 4). For example, immigrants to the US who are at young ages (i.e., before the critical period) may be said to *acquire* English as a second language. They can develop the target language as their native language. Learning, on the other hand, involves adult learners such as those in ESL courses planning to enter a university in the United States. Thus, Krashen believed that learning a second language should be similar to acquisition if it is to be effective: the focus of acquisition is on meaning rather than form. From this perspective, CBI is an effective teaching method in terms of "contextualized language curricula" (Brinton, Snow, & Wesche, 1989, as cited in Kasper, 2000, p. 4).

Cummins's two-tiered skill model (1981), as cited in Kasper (2000), showed that students should be supposed to develop these language skills through CBI: BICS, *basic interpersonal communication skills* ("the ability to converse with others and to articulate needs in the L2") and CALP, *cognitive academic language proficiency* ("the ability to use the L2 both to understand complex, often decontextualized linguistic structures, and to analyze, explore, and deconstruct the concepts presented in academic texts") (p. 5). Cummins's main idea was that it would be impossible for ESL learners to acquire academic language skills from general ESL classes and everyday conversation; to develop these skills, which the learners need in the next step of academic courses and regular classes, they need "complex interdisciplinary content" (p. 5). Therefore, content-based ESL instruction needs to include both the common features that other methods have in ESL teaching and an integral part in language learning. Content-Based Instruction is used not only for teaching the target language, which is the same goal of other methods, but also for providing "a less abrupt transition before programs" (Crandall, 1995, p. 6).

The third foundation of CBI is cognitive learning theory, in which it is believed that learning is accumulated and developed in several stages: first, the *cognitive stage* (the learners are developing the language skills through the required tasks), then, the *associative stage* (they are more improved and have strengthened their skills, but still need support to accomplish the tasks), and finally, the *autonomous stage* (they are able to "perform the tasks automatically and autonomously") (Anderson, 1983, as cited in Kasper, 2000, p. 5). This theory maintains the idea that students progress in their learning through the stages listed above and that students require "extensive practice and feedback, as well as instruction in the use of various strategies" (Kasper, 2000, p. 5).

In addition to these theories, Richards and Rodgers (2001) introduced another view on learning, which shows additional assumptions underlying the principles of CBI:

> People learn a second language most successfully when the information they are acquiring is perceived as interesting, useful, and leading to a desired goal. Some content areas are more useful as a basis for language learning than others. Students learn best when instruction addresses students' needs. Teaching builds on the previous experience of the learners. (pp. 209-211)

Moreover, Snow and Brinton (1988) studied "essential modes of academic writing, academic reading, study skills development and the treatment of persistent structural errors" (p. 556). According to their study, the activities of CBI could enable learners to learn the target language by synthesizing all information and the new input from meaningful and authentic text and content. It could also make them integrate the four traditional skills through discussions and writing about the materials. In addition, if "a strong network of tutorial and counseling services, as well as an on-campus residential program and an organized recreational and social program" can be offered to students, CBI can provide students with effective benefits in their learning with the original content (p. 556).

Models of CBI

To design a content-based lesson, teachers should consider their linguistic, strategic, and cultural objectives. Through the class, students are supposed to improve their English skills, to learn strategies to be applied in all subject areas, and to understand the culture of English-speaking people (Richards & Rodgers, 2001, p. 211). Moreover, according to Crandall (1999), second language instructional models (as described by several researchers including Edward (1984), Milk (1990), Mohan (1986), Tang (1993), Chamot (1994), O'Malley (1994), Enright (1988), McCloskey (1988), Spanos (1990), and Grabe (1997)) should be considered with several features. They suggested that teacher should think about – "(a) learning a language by studying of academic text, (b) focusing student attention on underlying knowledge and discourse structures of academic text, (c) developing students' learning strategies, (d) focusing on holistic language development through integrated thematic units, (e) developing academic language, skills, and discourse through the use of texts, tasks, and themes drawn from other content areas, and (f) focusing on the development of tasks, themes, and topics" (Crandall, 1999, p. 606). Thus, in content-based language instruction, teachers should account for academic concepts and language skills at the same time. According to Davison and Williams (2001), as cited in Stoller (2004), courses taught through CBI present students with themes related to academic concepts so they can learn the language they need depending on "the weighting of different curricular elements" (p. 268). As an example model, Martin (1990), as cited in Stryker and Leaver (1997) proposed? to initiate this approach with "thematic modules" from Krashen's aspect (p. 14). It was found to be? an efficient? approach to try to apply CBI to the existing program, but teachers did not need to totally change all elements that the program had. They needed to make only minimal changes. Martin used "the modular format," which "is self-contained and, therefore, flexible, movable, and relatively inexpensive to implement since elaborate interdisciplinary collaboration is not required" (p. 15).

There are several general subjects that are used in CBI: mathematics, science, and social studies. Cuevas (1981), as cited in Crandall (1995), successfully introduced the Second Language Approach to Mathematics Skills (SLAMS), which can be applied to regular mathematics lessons. It involves the objectives of CBI through mastering the mathematics concepts and the language skills. Thus, SLAMS was made up of two strands, one focusing on mathematics content and the other, language skills (p. 32). Kessler and Quinn (n.d.), as cited in Crandall (1995) introduced Science Learning and Second Language Acquisition as an example

of CBI: the lesson gives learners new science concepts through the text and enables them to acquire the language skills (p. 71). While the learners interact with the new input, they can develop their language skills. However, it is arguable that learners need a certain level of language fluency and proficiency (p. 71). To support the positive side of CBI, Penfield and Ornstein-Garlicia (1981), as cited in Crandall (1995) suggested that depending on the class situation, teachers may use the learners' first language to introduce and discuss new scientific concepts (pp. 71-72). The effectiveness of teaching science through CBI is revealed in bilingual as well as monolingual English environments. English can be developed along with learning science (p. 72). Finally, King, Fagan, Bratt, and Baer (n.d.), as cited in Crandall (1995), strongly believed that social studies classes taught through CBI would be excellent for second language development with the following class activities: "following directions, reading maps and charts, outlining, note-taking, using textbooks, preparing oral with written reports, interpreting cartoons, and using library references" (p. 108). Students are encouraged to learn new subject matter and are able to apply specific language skills for a certain purpose. According to the researchers, social studies concepts are the most meaningful concepts to use when teaching language skills (p. 108). Thus, using CBI in social studies classes of CBI may "enhance and accelerate students' language acquisition, as well as assist in the acculturation process" (p. 113).

Not all schools are able to offer classes dedicated to CBI, but there are two alternatives: the sheltered model and the adjunct model of CBI (Davies, 2003). These enable students both to learn English skills in an ESL class situation and to experience the language usage in a real situation with their English-speaking peers. The difference between the models explained above and the sheltered model is that the students can obtain assistance from two teachers. According to an example in Davies (2003), this model was effectively applied to speakers of two languages, English and French, at the bilingual University of Ottawa. Generally, in this case, two teachers team teach. One teacher gives a short lecture and the other teacher checks the students' understanding of the content and helps with any problems. The other model, called the adjunct model, is a kind of "EPA (English Proficiency Assessment) or ESP (English for Special Purposes) class, where emphasis is placed on acquiring specific target vocabulary" (Davies, 2003). The classes are taught by ESL teachers, and the main purpose is to enable students to follow ordinary classes which they are required to take with other students speaking English as their native language. Some adjunctive classes are offered in the summer months before the beginning of a regular semester.

Assessment of Language and Content in CBI

Assessment of CBI can be a problematic component, and yet it is critical that instructors evaluate students' learning (Kasper, 2000, p. 19). Student performance in most ESL classes is evaluated by general assessment tasks such as "discrete, decontextualized tasks," and their main focus is on linguistic structure or vocabulary (pp. 19-20). However, students in CBI classes cannot be evaluated in the traditional way because they were exposed to more input and content information through the class. According to Kasper (2000), "designing authentic and interactive content-based assessment" was required because learners in CBI had to "complete discourse level tasks" and the skills evaluated in the assessment were in an academic setting (p. 20). Students are required to interact critically with academic materials in terms of meaningful and contextualized text to analyze their knowledge (p. 20). Assessment of CBI should not be simple and isolated; students must be required "to integrate information, to form, and to articulate their own opinions about the subject matter," not to analyze the linguistic structure of the target language (p. 20).

Crandall (1999) also mentioned that it would be impossible for teachers to "separate conceptual understanding from linguistic proficiency" in CBI when they want to

evaluate students' learning (p. 608). With that thought, he suggested that teachers could make assessment of students' learning through "paper and pencil tests to include journal entries, oral responses to questions or reports, demonstrations of understanding, and student projects" (p. 608). In addition, "checklists or inventories" can be used to assess language development: it may show each student's mastery of the lesson including concepts and structure (p. 608). These methods have been developed as alternative strategies to assess students' learning.

Teacher Education for CBI

Teacher education is a complex issue in CBI. Students in a CBI class are supposed to learn the target language and some concepts related to the content at the same time. It means that teachers should be knowledgeable in the two areas and effectively "combine language and content instruction" (Crandall, 1999, p. 608). According to Crandall (1999), teachers who are to teach the target language with CBI have to be trained in places where specialized teacher training for CBI exists such as in Florida and California in the United States, and in Australia (p. 608). Moreover, teacher education programs may be developed in collaborative projects, which are done between science or social studies teachers and language teachers (p. 608). Therefore, to be an ESL teacher for CBI, one needs sufficient time to master "co-planed curriculum and instruction" (p. 608).

Content-Based Instruction in the EFL Classroom

The interest in Content-Based Instruction has spread to EFL classroom situations because teachers believe that the language education in those contexts should be more like ESL situations. Even though the approach cannot be applied in the same way, an alternative form called "the theme based model" has been introduced in some countries (Davies, 2003). According to Davies, an EFL teacher and a content specialist can teach together for the theme-based CBI, the content is not as limited or specific as in an ESL classroom. Instead of the content that is generally used in ESL, the teacher can design a syllabus that includes broad and various topics which students would be interested in, and offer additional supplements from the Internet, newspapers, and other diverse reading sources organized by topics. This model is to teach both the content and language skills. The CBI EFL teachers should care about assessment as much as their ESL counterparts. Continuous assessment is needed in CBI and "daily quizzes, journals, and direct oral feedback" can be used (Davies, 2003). Their teaching philosophy is that learners' motivation may be highly activated by interesting topics and content and that learners need to enjoy learning. Therefore, theme-based CBI is the best teaching approach for combining language learning and content learning (Davies, 2003).

Another positive CBI example is shown in Adamson's case study of teaching sociolinguistics to Japanese and Chinese second grade students in Japan (Adamson, n.d., p. 1). Through "collaborative dialogue," the CBI increased students' performance and also reduced students' anxiety related to interaction in class (Swain, year? as cited in Adamson, n.d., p.1). The study describes "how multilingual collaboration in a sociolinguistics course has created an active atmosphere where the discussion and negotiation of content-based meaning" (p. 9).

The Relationship between Content-Based and Skill-Based Instruction: CBI and Teaching Writing Skills

Shih (1986) showed that CBI can be effectively used to teach writing. (p. 623). According to Shih's study, CBI is distinctive from the traditional approaches in four features (p. 623). Students are supposed to write something related to the text that they read or heard through lectures in class, and the writing should be focused on "synthesis and interpretation" of the new input (p. 623). Writing here is not about personal or individual experiences, which were the main topics of the traditional language classroom. Moreover, the class focused on "what is said more than on how it is said," which is

revealed in teachers' responses to students' writing (p. 623). Even though the students are learning the target language and their performance is limited, the skills required in class are integrated into the academic courses. Finally, the topics for the classes are extended, and students are required to think critically, do research, and use language abilities equivalent to those of students speaking English as their native language (p. 624). Thus, content-based academic writing instruction in ESL should be emphasized for second language learners' future study in English. This method may be valuable for enabling them to improve and develop the required skills for their academic courses because it may directly affect their performance in the next learning stage.

Useful and practical assignments play important roles in this approach. Brostoff (1974), as cited in Shih (1986), suggested that adequate assignments should help students remember the text and new input, as well as understand the concepts from their content through their work (p. 636). In addition to completing the work, the students must go through a real-world process instead of using independent, creative, or unrealistic thoughts (p. 636). For example, to write about the ways to keep a healthy body, students directly research the information and put it together in their writing, instead of producing their own ideas as four or five paragraph essays in a regular writing class.

According to Shih's conclusion regarding the use of content-based approach to teach writing, writing is a specific tool which enables students to make judgments about the meaning of text after thinking carefully about it, to improve their language skills through the text, and to think about specific subject matter critically (Shih, 1986, p. 640). In addition to Shih, Richards and Rodgers (2001) considered CBI "a means of acquiring information rather than an end in itself": learners succeed in learning the language because CBI is enough to motivate them, and it makes the class more effective (p. 207). Moreover, this is the most important point about CBI: CBI is believed to better reflects learners' needs in terms of preparation for academic courses and helps the learners access the content of academic learning (p. 207).

Conclusion

Content-Based Instruction can help learners develop their language skills for academic use as well as provide them with access to new concepts through meaningful content (Crandall, 1999, p. 609). CBI is an ideal approach to learning the target language, but for a content-based pedagogy, there are special concerns such as assessment and teacher education (Kasper, 2000, p. 22). CBI fits in well with broader principles of language teaching and learning, and it can be applied in various situations. It could be used effectively in ESL as well as EFL classrooms. Of course, as with any teaching approach, alternative lesson plans may be required to apply this approach in a real ESL or EFL classroom because there is not a perfect language teaching approach to be applied in all situations. In conclusion, CBI can be considered as "the leading curricula approach in language teaching," as long as it is used in a suitable language teaching situation (Richards & Rodgers, 2001, p. 220).

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