CHAPTER 1

Content-Based Instruction in Higher Education Settings: Evolving Models for Diverse Contexts

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◈ INTRODUCTION

In recent years, content-based instruction (CBI) has become more widespread in university-level settings in response to several factors. These include the changing demographics within universities in English-speaking contexts and the emergence of English as an international language for academic texts and instruction in countries throughout the world. Recognition of the importance of preparing students for further academic study in the content areas, evidenced by the education standards under development for TESOL teachers at all levels (see, e.g., TESOL, in press a, in press b), increases the importance of this paradigm in language teaching, especially as it relates to ESL contexts. The increasing number of universities around the world which use English as a medium of instruction for supplementary readings, major texts, and class discussion and lecture underscores the need for attention to CBI in EFL contexts as well.

In response to college and university students' need for enhanced academic English language proficiency, a diverse set of CBI programs has been developed, evolving to meet changing contexts, needs, and resources. However, within this diversity is a commonality of purpose (to assist English language learners with their disciplinary and professional aspirations) and a growing sense of the critical need for collaboration across disciplines (especially by language and content specialists) and throughout the institution by administrators and those in charge of faculty development. CBI programs have heightened content-area teachers' and administrators' awareness of the critical role that English language faculty play in the academic development of an increasing number of students. They have also helped create a deeper recognition among language faculty of the importance of focusing attention on the language needs of learners outside of the language classroom. In an optimal CBI context, both language and content faculty gain in their understanding of the interplay of language and content and the respective contributions of all faculty to enhancing the language and academic proficiency of English language learners.

The nature of this collaboration is far more complex than previous labels such as *adjunct* or *theme-based* or *sheltered instruction* (Northcutt & Watson, 1986; Snow, Brinton & Wesche, 1987) or *integrated language and content instruction*, *content-based language instruction*, or *language-sensitive content instruction* (Crandall, 1993; Spanos,

1989) imply. This is reflected in the number of new program models, including *sustained content*, *simulated adjunct*, *content-centered language instruction*, and the like described here and elsewhere. As CBI is implemented in increasingly diverse settings—ESL and EFL, undergraduate and graduate, pre- and postmatriculation, discipline-specific and general education—the need for case studies that highlight these differences and illuminate common themes and concerns is even more critical. CBI is an approach with an increasing number of programmatic models or options.

The case studies in this volume illustrate some of the rich diversity of CBI programs in both EFL and ESL contexts. The cases differ depending upon the purposes for the program, the background and needs of the learners, the nature of the institution, the department in which the program is housed, and the available teachers. The program may be designed for undergraduate or graduate students or for students seeking admission to the institution. The students may be orally proficient in English but need focused attention to developing academic reading and writing skills, or they may have substantial background and content expertise and be quite proficient in reading English but need opportunities to develop their writing or oral presentation skills to present their knowledge to others. Thus, some CBI courses are part of a broader English for academic purposes (EAP) program, while others contribute principally to the development of special purpose language skills, as in an English for specific purposes (ESP) program. In EFL contexts, especially, students may also need to develop a more Western orientation to learning and academic participation.

Faculty participation in these programs also varies considerably, as does the degree of collaboration among language and content faculty. Content faculty may identify appropriate materials, assist in their adaptation, teach in the program, and/or participate in faculty development. The involvement of language teaching faculty also varies, mostly as a result of their time or expertise. Full-time faculty may develop the program, curriculum, and materials, oversee administration of the program, and assist the part-time faculty or graduate teaching assistants whose limited time, and (with the latter) limited experience, are likely to need mentoring in one of the most complex assignments they are likely to encounter as English teachers.

❖ SOME COMMON PROGRAMMATIC ISSUES

Within the diversity of programs described in these case studies, a number of common challenges emerge. They include

- identifying or developing appropriate content
- convincing content faculty to participate in the program
- developing and maintaining communication and collaboration
- developing sufficient expertise across disciplines
- institutionalizing the effort

Each of these is discussed in more detail below.

Identifying or Developing Appropriate Content

If the CBI program involves a linkage with or adaptation of an existing content course, great care needs to be taken in identifying that course and the faculty teaching in it. The course needs to offer the kinds of experiences that encourage development of the complex thinking required in university-level education. It is also helpful if the course offers academic tasks and texts similar to those that the student will encounter in the institution, with the range of readings, lectures, discussions, and written assignments and tests common to other courses. It should be sufficiently motivating and accessible to students of different backgrounds.

These same criteria are relevant to the language teacher preparing the content in the language program, with the addition that the content should be amenable to development of a range of critical literacy and academic language tasks. Students may be skeptical of CBI instructional approaches in their language classroom if their experiences have been primarily with traditional language classes, but the face validity of academic tasks and texts from a range of disciplines in their English program can help overcome the skepticism, as can the awarding of academic credit for the CBI program.

The case studies describe a number of ways for language specialists to deal with unfamiliar content. They may choose content that is accessible and relevant to both the students and the teachers, developing thematic instruction integrating a number of fields. They may take advantage of the content knowledge students possess, viewing their role as providing the language skills needed for students to articulate those understandings. In effect, the students use their content knowledge to learn the language and to explain that content to their language instructor. Teams of language and content teachers (which may also include students who have been successful in the content courses) can collaborate to identify content and materials, and then adapt these for both the language and the content classroom. When time permits, the language instructor can attend the content class to acquire some of that knowledge while focusing on academic language and tasks that will be followed up or supported in the language class (as in a traditional adjunct program). As the discussion of faculty development below indicates, many of these strategies are also useful for content faculty seeking to better understand language acquisition and pedagogy for English language learners.

Convincing Faculty to Participate

Convincing faculty to participate in CBI can also be a challenge. Content faculty may feel that they are not able to reach students who are still learning the language of instruction, or they may fear that adapting the course for language learners will necessarily result in a watering down of the content. Learning to adapt instruction also represents a commitment of time which may be a barrier to participation. Language faculty may also view the development of a course in the service of other disciplines as eroding their professional stature. The use of terms such as *adjunct* to refer to the CBI course may create the impression that the language program (and faculty member) exists only to facilitate participation in the content curriculum. Moreover, because faculty assignments change, the need to identify and provide professional development to both language and content faculty is an ongoing challenge.

Developing and Maintaining Collaboration and Communication

Developing and maintaining needed communication among the content and language faculty is also a challenge. Such communication takes time and often is not rewarded by the institution (in additional compensation, reduced workload, or adaptation of tenure and promotion guidelines). Still, without it, issues such as appropriate instructional focus or evaluation are likely to be contested. Faculty may be reluctant at first to have their syllabus or course critiqued, and grading is likely to be the locus of ongoing negotiation by faculty. There is no one model for collaboration. It may range from mutual decision by both language and content faculty, to content faculty determining the content and ESL faculty designing the integration of language components. Whatever the model, the challenge of establishing effective communication and working relationships is likely to be an ongoing one because changes in student needs, course requirements, and faculty availability, among other things, may require professional development or even changes in the faculty involved in the program.

Although collaboration among language and content faculty may be challenging, it is also likely to result in professional development and growth for both. The language specialists gain knowledge and insight into other disciplines, while the content specialists gain an understanding of pedagogical techniques that respond to students' diverse academic and linguistic needs, applying these even to courses they teach outside the CBI program. The nature of collaboration among language faculty and colleagues across disciplines will have an impact not only on course design and curriculum development but also on academic recognition for CBI courses.

Collaboration by instructors across disciplines is at the heart of successful CBI programs both in developing the program and in gaining recognition for the discipline of language pedagogy and the value of CBI. Frequent conferencing, seeking advice, and sharing expertise among language and content faculty can demonstrate the importance of the language specialist in the educational process as well as the role that content faculty can play in the language program.

The Need for Professional Development

Little in the prior education or experience of either the language or content faculty has prepared them for the CBI approach. Thus, a hallmark of effective CBI programs is a commitment to professional development of faculty and administration involved in the education of English language learners. The authors of these case studies provide a number of suggestions for both the topics and processes for this professional development, ranging from occasional or frequent meetings to more intensive professional development institutes.

Issues to be addressed include understanding differences in students' educational experiences and expectations or learning styles, providing multiple media and modes to promote active engagement of learners, chunking content or providing sufficient scaffolding to promote understanding of complex concepts, simplifying texts and explicitly teaching the language to promote both linguistic and conceptual learning, and encouraging cooperative and other interactive approaches which enable students to participate in constructing their own understandings of the content.

Ongoing professional development is crucial and especially helpful if it is provided by those who have participated in the process.

Institutionalizing the CBI Program

Institutionalizing the CBI program, in light of changing faculty and institutional priorities, is also a continuing concern. Students, faculty, and administrators all need to be convinced of the importance of providing CBI programs. Successful integration of language and content will raise students' awareness of both the language as an object of study and its role as a vehicle in the acquisition of disciplinary concepts and text comprehension within the disciplines. It also may produce more motivated students who are able to enroll and succeed in university-level education and fulfill professional roles that previously were more difficult for them.

The case studies in this volume underscore the need for CBI language faculty to investigate fully the strengths and needs of both students and faculty participating in the program, as well as the resources available within and outside of the institution, before developing the program and curricula. They also describe a variety of ways to access resources and build support for the program with administration, other faculty, and students.

◈ CASE STUDIES OF EFL CONTEXTS

The majority of CBI programs in university and college contexts have been developed in ESL contexts, but there are a growing number of them in EFL contexts. This collection includes descriptions of programs for undergraduates in an English-medium university (Rosenkjar) and a small, English-medium, liberal arts college (Stewart, Sagliano, & Sagliano) in Japan; an English-medium science and technical university in Thailand (Owens); an Israeli university program for mathematics and computer science students in which texts are in English (Kol); a course on writing scientific research articles for science graduate students in Argentina (Martínez); and a course for architecture and urban planning students in Venezuela (Gonzales & St. Louis).

Content-based language courses often do not carry academic credit, but Rosenkjar (Chapter 2) provides an interesting case study of how an adjunct course focused on great books achieved the status of a credit-bearing course after several years of persistence, focused effort, and documentation of methodology, evaluation, and outcomes. Rosenkjar outlines the challenges he faced in his endeavor to bring recognition to EFL courses that were linked to credit-bearing courses at Temple University Japan. The process involved a careful needs analysis, the creation of a rigorous syllabus and intellectually stimulating course content, collaboration with colleagues in the relevant disciplines, quantitative and qualitative review and evaluation of the courses, and careful documentation of the findings and an accompanying rationale for making the courses credit bearing addressed to the decision-making administrators who could give legitimacy to the courses and recognize their intellectual contribution to the general educational program and mission of the university. A description of various instructional components and activities is also provided. Rosenkjar's experience may be instructive for EFL and ESL

educators who seek to obtain the support of content-area faculty and of university administrators.

In another context in Japan, Stewart, Sagliano, and Sagliano (Chapter 3) discuss the evolution from a modified adjunct approach to a collaborative interdisciplinary team-teaching approach involving language and content-area faculty leading classes at Miyazaki International College (MIC), a small, private, liberal arts college. This English-medium college has an international faculty and a goal of fostering fluent bilingual global citizens among students who enter the college with a wide range of English proficiency. The collaborative approach has been institutionalized and features prominently during students' first years of study at the college. For successful team teaching to take place, Stewart and his colleagues underscore the importance of professional development workshops for new faculty. These focus on learning about CBI and experiencing collaborative instruction. The authors also explore the implications of this approach for both language and content faculty, for the college administration, and for students.

The integration of Western culture, particularly as it applies to the study and practice of science, is a major focus of Owens' case study (Chapter 4) of a CBI program at the Asian University of Science and Technology, an English-medium university in Thailand. Several interesting threads are interwoven in this chapter, including the integration of Western culture as both content and pedagogical process (e.g., writing using the process approach, questioning faculty, participating in discussions, and giving presentations) for the development of language and content knowledge. As students learn English, they are also learning to develop more learner autonomy and to participate as students in a more Western context. Details on the assessment process, always a challenge in CBI programs, are also provided.

A theme-based approach with an emphasis on reading in English is the focus of Kol's case study (Chapter 5) of a CBI course in mathematics and computer science for Tel Aviv University in Israel, where Hebrew is the language of instruction and evaluation, but English is the medium of the texts and other course material. In developing the course, Kol surveyed the academic literature, content-area texts, and content faculty to identify the linguistic and discipline-specific skills that students need to master in mathematics and computer science. The author discusses the rationale for selecting the theme-based approach, the process of developing the course, text selection, and collaboration of content-area faculty. She identifies the discipline-specific topics, skills, and strategies that relate to mathematics and computer science and describes the development of language tasks that are specific to a CBI course in mathematics and computer science and help students develop and refine their language skills.

Graduate students in the sciences often bring advanced English reading and conceptual knowledge to their education, but limited experience in writing for publication. Martínez (Chapter 6) describes a course developed for these students at the National University of Rio Cuarto in Argentina to help them write experimental research articles for publication. Facing a context in which students' disciplinary knowledge far exceeds what an English teacher is likely to have, she uses that knowledge as a point of departure for raising awareness about the rhetorical and linguistic structures associated with the experimental research article and other scientific genres such as abstracts and letters of submission. Students work with articles from their field (content they understand) and with the guidance of the CBI

instructor, whom they view as a language consultant, focusing on issues of form. Martínez describes a number of configurations in which the course has been offered, the most productive of which has been a shorter, more intensive class meeting two hours daily for two weeks.

Gonzales and St. Louis (Chapter 7) describe how they re-designed an English course for architecture and urban planning students at Simon Bolivar University in Caracas, Venezuela, to make it more relevant, sensitive to learner needs and styles, and motivating to a diverse group of students, both in terms of English proficiency and disciplinary knowledge. Some students are nearly bilingual, whereas others have more limited proficiency in English. Moreover, students are at various stages in their architecture program because they can take the English sequence any time prior to graduation; thus, their understanding of architectural concepts varies. The authors found that becoming familiar enough with the field to develop and teach the course was very challenging. They spent a summer reading in the field and then developed a course with a number of integrated tasks such as listening to write a summary, reading in order to provide an oral or written explanation, and final group projects. Impromptu speeches, journal entries, creative writing, and other activities, including assessment techniques, are also described.

◈ CASE STUDIES OF ESL CONTEXTS

ESL contexts offer rich case studies of the potential and diversity of CBI programs. The five case studies in the second part of this volume, all drawn from the United States, describe the development and often fine-tuning of a diverse set of CBI programs: theme-based or adjunct courses linked to discrete skills courses for undergraduate international students at a large university and a small, liberal arts college; a modified adjunct program and a sheltered content course for undergraduate students; and a complex set of courses and professional development initiatives for U.S.-born and long-term immigrant students in need of academic language and literacy development. The evolution of the various programs and the bases for making decisions and changes demonstrate the importance of flexibility and responsiveness in CBI program development. They also testify to the dedication of the program providers.

Stoller (Chapter 8) describes a core CBI course for a diverse group of international students with a range of English proficiency and a number of different academic interests who need to improve their English before being admitted fully to Northern Arizona University. The course is one component in a "hybrid EAP curriculum" that combines the theme-based content course with a number of discrete skills support classes. Stoller discusses criteria for the choice of themes, including broad relevance and accessibility to language teaching faculty, many of whom are graduate teaching assistants, though they will need to "bump up their knowledge" to teach the unit. Of particular interest is the focus on development of expertise through a cognitive apprenticeship model and the explicit attention to content knowledge in the CBI course.

Brinton and Jensen (Chapter 9) describe the evolution of a CBI program from a theme-based and adjunct model to a variation of the adjunct model for matriculated ESL students at the University of California, Los Angeles. Instead of pairing an ESL and content course (and the instructors), they import authentic content from existing

courses into the curriculum. As the authors indicate, this approach is proactive, allowing for content to be selected for language pedagogical reasons, rather than the more reactive traditional adjunct approach. Moreover, it overcomes some of the traditional scheduling conflicts and is more appropriate for the graduate teaching assistants who are course instructors. The authors discuss course development, including the choice of course content (communication studies), the theme (media and the First Amendment), and the program activities.

In still another CBI model, Iancu (Chapter 10) describes an adjunct bridge program for international students awaiting full admission to a small liberal arts school, George Fox University. The program links a general content course with four skills courses; if students are successful in the content course, they exit the program, matriculate to the university, and receive academic credit for their experience as well. A highlight of the program is classroom observation week held during the middle of the term, when students attend regular content classes instead of ESL, taking lecture notes and completing observation reports on their experiences. This provides students with a better evaluation of their readiness to participate fully in the university curriculum. Academic credit for the CBI course is linked to successful completion of the content course.

What happens when a content specialist and an ESL specialist collaborate in lesson planning? Schneider and Friedenberg (Chapter 11) discuss the close encounter between professors of sociology and of linguistics who collaborate on developing classes for undercapitalized students at a large public university. Transcripts of this collaboration illuminate the issues and challenges when two professionals bring their respective and often opposing professional and disciplinary perspectives to the collaboration. These negotiations are often characterized by an underlying mutual frustration that is attributable to preconceptions. On the one hand, the language specialist is unfamiliar with the content and is convinced that the content faculty is unnecessarily fixated on preservation of precise wording and complexity. On the other hand, the content specialist is concerned that simplification will undermine the cognitive value and authentic representation of the content. The chapter underscores the impact of such collaboration and the inevitable initial confrontation, due to the collaborators' respective professional perspectives and views on curriculum development and teaching, as well as the results of subsequent compromises in teaching approaches to accommodate the needs of diverse student populations.

An adjunct program, faculty development and materials development are all components of a multi-faceted program at California State University at Los Angeles described by Snow and Kamhi-Stein (Chapter 12). Of special interest is the involvement of student peer group leaders who attend the content course with the ESL faculty member. Having successfully completed a previous class of the content course, the peer study group leaders are responsible for helping students process the content. The project focuses on integrating language and content instruction and infusing content-area courses with opportunities for academic literacy development for underprepared U.S.-born and long-term immigrant students, students with different needs than international students or newcomers to the United States.

◈ CONCLUSION

Language educators recognize the qualitative and quantitative challenges that emerge for students who are not proficient in the dominant language of academic texts or instruction. Recognition of these immense challenges has led to the development of diverse paradigms for academic English language and literacy preparation that complement content development in a variety of disciplines. Although the language component of a CBI program delivered within an ESL or EFL context may be viewed as secondary to the content component, increasingly these courses are achieving greater respect and legitimacy as academic courses, as more faculty and administrators across the university or college understand their importance and more students successfully enter or complete their academic program after having participated in them. Content-based language courses which draw upon research in second language acquisition and language pedagogy, and also effectively address complex cognitive content, are more likely to be considered independent academic courses with a rationale and importance of their own. The number of program models addressing the needs of students in diverse institutions and disciplines is an important sign of the growth of CBI in higher education settings.

Note: Throughout the collection the terms *content-based instruction* and *content-based language instruction* have been used interchangeably, although only the acronym CBI has been used. Some authors also refer to ESP and CBI in comparable ways. We consider the lines between CBI and ESP to be very fuzzy, with CBI best understood as an approach used in ESP and EAP (Master, 1997), as well as many other contexts.

◈ CONTRIBUTORS

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