

## ***Approaches to Content-Based Academic Writing***

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Due to the students lack of motivation in studying GE (General English) text books, content-based writing was experienced as a new procedure to teaching English to the students of Science and Technology. Content course syllabus for Chemistry was divided into different topics and each topic was allocated to one student. The students were asked to refer to the library and try to gather as much information as they could. Then they had to arrange the material they gathered, organize and structure them into a linear piece of discussion. The result was quite satisfactory. These students had a better Vocabulary, Grammar, Reading Comprehension, and Writing compared to the students in GE. Their scores in their content course were also higher than the scores of the students in GE course.

### **INTRODUCTION**

Content-based academic writing instruction is connected to the study of specific academic subject matter and is viewed as a means of promoting understanding of this content. It is argued that such instruction develops thinking, researching, and writing skills needed for academic writing tasks. A rationale is presented for adopting content-based instruction to meet ESL composition goals. Since teaching in Iran is done through Farsi (the Official and Standard Language of Iran), most students in Universities of Technology are not interested in studying GE text books and elucidate this deficiency as not being related to their disciplines. So as one of the faculty members of

English Department of the K.N.TOOSI University of Technology, I decided to experience content-based writing instruction, and hypothesized that the blame of this lack should be on course materials and teaching methods. I decided to examine a totally new—at least in Iran—approach, not based on reading comprehension and grammar but on writing. I reasoned that since the content of the English class was identical to the content of the students' discipline, logically the students should be motivated to study English.

With this concern a pilot study was established with the students of chemistry. Content course syllabus was divided into different topics and each topic was allocated to one student. The students were asked to refer to the library and try to gather as much information as they could. Then they had to arrange the material they gathered, organize and structure them into a linear piece of discussion. Since the formal academic writing tasks require students to restate or recast information presented in course lectures, readings, and discussions or to report on original thinking and research connected to the course content, the student should have lexical/semantic knowledge and fluency in conveying intended meaning by words. The result was quite satisfactory. This article tries to express the experience obtained in this regard. The article starts with introducing different approaches in teaching writing, then it moves to the explanation of five frameworks for structuring content-based writing instruction, next it continues with a brief explanation of the researches done in this area, afterward it keeps up with the case study in which pre-writing, writing the first draft, and revising is also mentioned. Subsequently the writer provides the results and the comparison between the students in pilot study and the other students in GE courses. In conclusion the writer points out that there is a need for research of all types—needs assessment studies to guide syllabus design and materials selection, curriculum evaluation studies, and controlled evaluation studies on the effects of receiving specific types of content-based instruction.

Since the case study was based on the content-based writing, it is necessary to elaborate on the teaching writing approaches in ESL programs. Depending on which element of composing, academic writing courses

generally have one of four orientations:

*Patient-centered approaches* ask students to analyze and practice a variety of rhetorical or organizational patterns such as process analysis, partition and classification, comparison/contrast, cause-and-effect analysis, pro-and-con argument, commonly found in academic discourse. Model essays are generally used to help build this awareness. Writing assignments require students to employ the specific patterns under study. Traditionally, the source of the content for these essays has been students' prior personal experience. The assumption has been that once students assimilate the rhetorical support, they will be able to use the same patterns appropriately in future writing for university courses. (Shih, 1986)

*Functional approaches* recognize that in real writing, purpose, content, and audience determine rhetorical patterns. Starting from given patterns and asking students to find topics and produce essays to fit them is thus a reversal of the normal writing process. Instead of having students write a comparison/contrast essay, a functional approach would ask students to start with a specified purpose and audience, for example, "Persuade one of your friends who is planning to move that City X is a better place to live than City Y." A rhetorical problem motivates writing. Students should not be asked "to fit their ideas into preexisting organizational molds; rather, they should see that "organization grows out of meaning and ideas" (Taylor, 1981). Typically, in a functionally oriented writing program, writers assume a variety of roles; academic writing is only one context and usually not the sole focus. Contexts for writing tasks are carefully defined; purpose and audience are always specified. If the writer is placed in unfamiliar roles in which background knowledge about the topic may be lacking, data may be supplied in the form of facts, notes, tables or figures, quotations, documents, and so on (Shih, 1986).

*Process-centered approaches* help students understand their own composing process and build their collections of strategies for prewriting, drafting, and rewriting (Shih, 1986). Tasks may be defined around rhetorical patterns or rhetorical problems (purpose), but the central focus of instruction is the

*process* leading to the final written product. At least in early stages, the focus is on personal writing. Later in the course, students may move to academically oriented topics. They may continue to write primarily from personal experience and beliefs, or they may move to writing from sources, practicing new prewriting, drafting, and rewriting strategies as they tackle academic tasks like the library research paper (Shih, 1986).

*Content-based approaches* differs from traditional approaches since they do not emphasize on writing from personal experience and observation of immediate surroundings, instead; the emphasis is on writing from sources (readings, lectures, discussions, etc.), on synthesis and interpretation of information currently being studied in depth (Shih, 1986). Writing is linked to current study of specific subject matter in one or more academic disciplines and is viewed as a means to stimulate students to think and learn (Beach & Bridwell, 1984; Emig, 1977; Fulwiler, 1982; Newell, 1984). The focus of this approach is on *what* is said more than on *how* it is said (Krashen, 1982). The instructor who guides and responds to writing must know the subject matter well enough to explain it, answer to the field questions, and respond to content and reasoning in papers. The form (organization, grammar, and mechanics) and style do not dictate the composition course syllabus, but rather follow from writers' needs. Skills, in this approach, are integrated as in university course work: Students listen, discuss, and read about a topic before writing about it. This approach emphasizes on the extended study of a topic preceding writing, so that there is "active control of ideas" and "extensive processing of new information" (Anthony, 1985) before students begin to write. A longer incubation period is permitted, with more input from external sources, than in traditional composition classes, in which students rely solely or primarily on self-generated ideas and write on a new topic for each composition. Writing assignments can build on one another with "situational sequencing" (Schuster, 1984). Intuition and experience suggest that when students write to a topic about which they have a great deal of well-integrated knowledge, their writing is more likely to be well organized and fluent; conversely, when students know little about a topic, their writing is more

likely to fail. When students have few ideas about a topic, or when they are unwilling to risk stating the ideas they have, their writing may rely on convincing generalizations, unsupported by argument or enriching illustrations (Langer, 1984).

The five Instructional Frameworks mentioned above should be elaborated as the followings:

*1. Topic-Centered Modules or Mini courses.* In content-based approach to teaching writing (as well as other language skills), instructional units, or modules (Baker, Baldwin, Fein, Gaskill, & Walsleben, 1984), or minithematic units (Dubin, 1985) simulate actual university courses through intensive reading, live or videotaped lectures, films, discussions, writing tasks, quizzes, tests, and other activities. The units may be independent modules or mini courses. Alternatively, thematically related units may be tied together in an extended, content-based course (same length as a real academic course). In these mini courses, the focus is on comprehending and learning new content. The classroom is a place where second language acquisition, as well as learning, takes place. Writing practice is integrated with practice of other language skills (reading, listening, speaking) as in actual academic situations, and in similar proportion, so writing may *not* be stressed (writing and speaking being secondary to reading and listening, as noted by Johns, 1981). Reading and discussion of core material could be followed by individualized reading, research, and writing tasks. In this way students selected an article in a book on the topic to read independently, made an oral report to class, wrote the report, and participated in a discussion. Possible difficulties in implementing the mini course or thematic modules approach include instructor hesitation about teaching in certain content areas and the need for staff time and expertise to select, adapt, and/or develop readings, mini lectures, and study materials appropriate to student level. Topics with the greatest potential to hold student interest may not also be areas in which ESL instructors are knowledgeable. Thus, this approach requires instructors be open to acquiring new knowledge along with their students and willing to exert effort on curriculum development in practice. As the approach has been aimed at upper level, the selected materials should not assume any specialized background knowledge on a topic; thus, language instructors should easily be able to understand the materials and lead discussions on them.

2. *Content-Based Academic Writing Courses.* Content-based academic writing courses prepare students to handle writing tasks across disciplines. Typically, a course may be organized around sets of readings on selected topics. Students are guided to practice reading skills, study skills, and forms of writing common to many academic writing assignments, such as summary, personal response, synthesis, and critique/evaluation (Behrens & Rosen, 1985; Spatt, 1983), and basic expository schemata such as listing, definition, classification, and comparison/contrast (Kiniry & Strenski, 1985). This type of content-based course also serves to introduce students to the nature of inquiry, techniques and standards for gathering and evaluating evidence, and writing formats, characteristic of different academic fields (Bazerman, 1985; Bizzell, 1982; Faigley & Hansen, 1985; Maimon et al., 1981). Later in the course, individual writing tasks may be given, using material from students' academic courses, ideally with the help of content teachers. A content-based academic writing course is attractive because it can be incorporated into an existing composition program without necessitating the cooperation of instructors in other academic disciplines. For ESL composition programs, this approach requires instructors to be resourceful in assembling sets of readings which will be comprehensible, suitable, and interesting for the students.

3. *Content-Centered ESP Courses* can be offered to students at any level beyond elementary, whenever a group of students at a given level share an interest in a particular subject and instructors have, or are willing to acquire, content knowledge. Team teaching by a content teacher and a language teacher may be desirable when a single teacher does not possess both the subject knowledge and the language teaching expertise. The content teacher and language teacher divide the work of recording lectures and preparing comprehension checks (including exam questions), and during class time, both help students with problems that arise. The content teacher finds authentic or realistic situations that are the basis for report assignments. As students work on these assignments, both teachers act as consultants. Models written by the subject teacher or based on the best student work are later presented and discussed. As in the mini course or thematic-modules approach, a major potential difficulty in implementing content-centered ESP courses is the subject-matter knowledge required of the language instructor (Shih, 1986). In practice, this problem has been handled by providing a content teacher or applying team teaching. In the

latter case, the instructor learns together with the students and uses additional supports such as guest speakers, films, and field trips (Proulx, 1984; Smith, 1984).

*4. Composition or Multi skill EAP Courses as addition to the Designated University Courses* is to link composition or multi-skill EAP courses to selected university content courses. In this “interdependent method” (Press, 1979), responsibility for guiding student thinking and writing is shared between academic content instructors and composition / EAP instructors. The university content course is typically an introductory course, often a survey course. The content course could be an interdisciplinary course. The content course could also be an upper division or graduate course. In such upper division writing adjunct courses, students can be taught to write according to conventions within a particular discipline.

*5. Individualized Help With Course-Related Writing at Times of Need* is to provide assistance with course-related writing at times of need. Such assistance might be given by subject area faculty, tutors, and/or writing center staff. Many writing-across-the-curriculum programs now in existence place some responsibility for writing instruction with instructors in all academic disciplines. A basic principle is that “writing skills must be practiced and reinforced throughout the curriculum, otherwise they will deteriorate, no matter how well they were taught in the beginning” (Griffin, 1985). In addition, faculty have discovered that writing helps students to analyze and synthesize course material; that writing is learning and that faculty need to be actively involved in stimulating students’ thinking and writing (Shih, 1986). Through channels such as collaboration with writing center staff and faculty workshops and seminars on writing, the content teachers learn more about writing and how it can be effectively assigned, guided, and evaluated.

## **LITERATURE REVIEW**

In recent years, composition programs have been experimented with a range of content-based Frameworks to teaching academic writing—in which writing is linked to concurrent study of specific subject matter in one or more

academic disciplines. This may mean that students write about material they are currently studying in an academic course or that the language or composition course itself simulates the academic process. Students write in a variety of forms (short-essay tests, summaries, critiques, research reports) to demonstrate understanding of the subject matter and to extend their knowledge to new areas. Writing is integrated with reading, listening, and discussion about the core content and about collaborative and independent research growing from the core material. Several published reports on writing and academic skills surveys include data on types and relative frequency of writing tasks in various academic fields. Behrens (1978), analyzing survey found that essays interpreting experiences and/or readings were the most frequent type of papers assigned in undergraduate humanities and social science courses but were infrequent in professional school courses and never assigned in graduate science courses. In the sciences, experimental reports were the most frequent, and in the professions, reports providing factual discussion and research papers were the most often assigned. Eblen (1983) based on his questionnaire found that the most frequently required form of writing across fields was the essay test—showing that writing as a mode of testing was stressed at least as much as writing as a mode of promoting new learning. Most assigned writing was informative or transactional—including, in decreasing order of frequency across fields, analytical papers, abstracts of readings, documented papers, essays or themes, lab reports, case reports, technical reports, and book reports.

To find out what students were asked to write in university classes, Rose (1983) collected and analyzed 445 essay and take home examination questions and paper topics. Most questions and topics required (a) exposition and academic argument, (b) synthesis of information from lectures and readings (rather than ideas from personal experiences or observations of immediate objects or events) and thoughtful reflection on material, and (c) writing which fits the philosophical and methodological assumptions of specific academic disciplines. Several recent studies have examined writing and other tasks required of international students. Kroll (1979) gave 35 international students (mostly in engineering, science, and business fields)

and 20 American students—all enrolled in freshman English courses at the University of Southern California—a questionnaire on their past, current, and future writing needs. The two groups had similar past writing experiences and current academic writing needs; international students also predicted a need to do some writing in English in future jobs. Kroll interpreted these results as justification for the requirement that ESL students take English composition courses. She urges, however, that composition courses let students practice the types of writing they really need. In Kroll's survey, the personal essay was rated as less important than tasks such as business letters and reports. When asked to state the most challenging academic writing assignment faced in the current semester, international students most often specified term papers in fields remote from their major fields. This is a reminder that lower division undergraduates, more than students doing specialized graduate or professional work; need to be equipped to handle more diverse writing demands across disciplines.

Ostler (1980) in another survey was interested to determine if the advanced ESL classes were meeting student needs, and asked to assess the academic skills needed to complete their degree objectives as well as to evaluate their own language abilities in several contexts. A distinction was found between skills most needed by undergraduates and those most needed by graduates. For example, undergraduates more frequently indicated a need to take multiple-choice exams than essay exams and to write lab reports. Advanced undergraduates and graduates more frequently indicated a need to read academic journals and write critiques, research proposals, and research papers. The importance given to specific skills also varied by major field. Johns (1981) found out that the receptive skills (reading and listening) were ahead of productive skills (writing and speaking). Johns recommends that more extensive, systematic instruction in the receptive skills, using real academic materials and problems, be part of the academic ESL curriculum. Teaching of the productive skills of writing and speaking, rather than being central to the curriculum, should be secondary to listening and reading activities. Writing, for example, could involve the paraphrase or summary of

reading materials or the organization and rewriting of lecture notes. Speaking instruction should include response to readings or lectures rather than the preparation of dialogues or presentations.

Use of writing tasks which follow from, and are integrated with, the listening and reading of academic material is in fact a defining characteristic of the academic content-based approaches to writing instruction. To find out what kinds of writing are required in graduate engineering courses, West and Byrd (1982) found that faculty assigned examination, quantitative problem, and report writing most often, homework and paper writing less often, and progress report and proposal writing least often. If undergraduate technical writing courses are to prepare students not only for careers in industry but also for graduate studies, instructors should carefully consider the types of writing assigned; for example, progress reports and proposals might be de-emphasized. Bridgeman and Carlson (1983, 1984) analyzed academic writing tasks and skills required of beginning graduate students in six academic disciplines with relatively high numbers of nonnative students: business management (MBA), civil engineering, electrical engineering, psychology, chemistry, and computer science. Undergraduate English departments were also surveyed to provide data on writing requirements for beginning undergraduates across disciplines. Faculty were asked to indicate how frequently per semester first-year students were assigned various writing tasks and then to rate (on a scale of 1 to 5) the importance of given writing skills (e.g., describing an object or apparatus, arguing persuasively for a position) for success in the first year of graduate study. Some major findings were summarized as follows: Even disciplines with relatively light writing requirements (e.g., electrical engineering) reported that some writing is required of first year students. Lab reports and brief article summaries are common writing assignments in engineering and the sciences. Longer research papers are commonly assigned to undergraduates and to graduate students in MBA, civil engineering and psychology programs. Descriptive skills (e.g., describe apparatus, describe a procedure) are considered important in engineering, computer science, and psychology. In contrast, skill in arguing for a particular

position is seen as very important for undergraduates, MBA students, and psychology majors, but of very limited importance in engineering, computer science, and chemistry. The studies cited above indicate that many types of writing tasks are assigned in university courses; types of tasks emphasized vary from one academic level to another (especially lower division undergraduate versus graduate), from one academic field to another, and even within disciplines. Writing is often required as a mode of demonstrating knowledge (e.g., in essay exams, summaries) and is also used by instructors as a mode of prompting independent thinking, researching, and learning (e.g., in critiques, research papers). Especially in the academic fields chosen most often by nonnative students, tasks require mostly transactional or informative writing; writing from personal experience only is rare. Writing instruction for students at the beginning of their undergraduate education needs to prepare them to handle a variety of tasks across disciplines. As students begin to specialize, they must learn to gather and interpret data according to methods and standards accepted in their fields, to bring an increasing body of knowledge to bear on their interpretations, and to write in specialized formats. Further empirical case studies (Faigley & Hansen, 1985; Herrington, 1985) are greatly needed to provide teachers and curriculum developers with information on writing demands posed in specific academic contexts and problems experienced by students, as well as to establish a basis for comparisons of such demands and student needs across university courses.

## **THE CASE STUDY**

The formal writing tasks assigned in university courses require students to exercise complex thinking, researching, and language skills. Traditional composition courses have often fallen short in helping ESL students to develop the skills needed to handle real academic writing tasks. Writing assignments in many traditional composition courses may fall short in preparing students for real academic writing because they require a different

set of prewriting strategies than do writing tasks in university subject-matter courses. Pattern-centered approaches have traditionally given more attention to the form of the final written product than to the prewriting (and rewriting) process. Content-based academic writing instruction may be a more effective means of prompting students to develop the requisite skills because it deals with writing in a manner similar (or identical) to how writing is assigned, prepared for, and reacted to in real academic courses (Shih, 1986). In content-based composition instruction, writing tasks require students to restate and recast information and ideas from readings, lectures, and discussions on a topic and possibly also to report on results of independent or group research on related topics. Thus, students develop strategies for collecting, synthesizing, and interpreting new information from external sources as well as for connecting such new information to previous knowledge and beliefs. As in real academic writing, writing serves to help students strengthen and extend their understanding of the topics. It has been noted that few academic assignments ask students “to narrate or describe personal experiences, to observe immediate objects, or to express a general opinion on something not studied closely” (Rose, 1983). “In most college courses, students are less often asked to do independent thinking than they are required to work with assigned sources—textbooks, lectures notes, and outside readings” (Spatt, 1983). There is evidence that academic discussion is different, more cognitively demanding, and requiring different skills from personal writing. Formal, disciplined writing on academic and impersonal themes teaches skills different from those taught in narrative writing about personal experiences.

If so then writing is integrated with reading, listening, and discussion about the core content and about collaborative and independent research growing from the core material. Reading and discussion of core material may be followed by individualized reading, research, and writing tasks. In this way students will select an article in a book on the topic to read independently, they will formulate an oral report to class, write the report, and may participate in a debate.

In our university; K.N.Toosi, University of Technology, Tehran-Iran; we

tried to center one of our General English classes on content-based approach. In this regard the students of Chemistry were chosen. Since the language teacher was not competent in the field, the instruction was done through team teaching by the help of a content teacher. Content course syllabus was divided into different topics and each topic was allocated to one student. The students were asked to refer to the library and try to gather as much information as they could. Then they had to arrange the material they gathered, and organize and structure this material into a linear piece of discussion. Since the formal academic writing tasks require students to restate or recast information presented in course lectures, readings, and discussions or to report on original thinking and research connected to the course content, the student should have lexical/semantic knowledge and fluency in conveying intended meaning by words. The morphological and syntactic knowledge and fluency should as well be considered. Furthermore the discussion frames, conventions, and techniques should also be illustrated. The student ought to be able to adapt familiar discourse patterns or invent new patterns appropriate to the topic. It means that sentences have to be well formed and properly express the coordinate and subordinate relationship among the ideas (Shih, 1986). Besides we should note that the knowledge of mechanical conventions: orthography, spelling, capitalization, punctuation, manuscript form is as well essential.

Accordingly, and by the content teacher, lectures on course topics were presented to the students. So after 3-4 weeks of teaching by the content teacher and student's listening to the topics, they were asked to prepare a prewriting. In academic courses, prewriting is so important and is needed to handle tasks and requisites such as:

1. Recalling, sorting, synthesizing, organizing, interpreting, and applying information presented in course lectures, readings, and class discussions. The material must be mentally reordered as necessitated by the question, so that the essay will not be merely a "memory dump" (Flower, 1985) but a coherent essay directly answering the question posed (Jacobs, 1984).
2. Reading a text carefully and critically; identifying an interpretive problem

and the appropriate techniques of analysis.

3. Obtaining and organizing information from secondary sources.
4. Evaluating sources; selecting sources that work well together.
5. Recasting data and ideas collected from primary and/or secondary investigation, using schemata common in academic writing such as listing, definition, process analysis, classification, comparison/contrast, analysis, and so on (D'Angelo, 1975, 1980; Kiniry & Strenski, 1985; Rose, 1979a, 1983).

In prewriting the students had to write the information and data they had previously gathered. When the students brought together sufficient information in prewriting process, the students move to writing the first draft. When writing the first draft of an academic paper the students should apply an efficient and productive writing process; they should be able to alter initial plans as new ideas are discovered. In writing the first draft, the previously gathered material were organized ideas into visible language” (Flower & Hayes, 1981). Meanwhile, students continued to and structured into a linear piece of discourse (Shih, 1986); called “the process of putting discover what they wanted to say and altered and refined initial plans. The drafts were checked. In checking the drafts some symbols such as S= Spelling, WW= Wrong Word, WO=Word Order, U= Unity, S= spelling ... were used. The checked drafts were returned to the students and they were asked to correct their writings based on the symbols used. The comments on the checked drafts were usually on accuracy in reporting the data and clarity of the writing and good reasoning of the arguments. In content-based approaches to teaching academic writing, students receive this type of feedback to use in subsequent revision. In contrast, in traditional composition classes, instructor feedback has often been largely aimed at matters of form and style rather than of substance and organization (Sommers, 1982; Zamel, 1985). Since the language teacher often lacks background knowledge to respond meaningfully to the content, and the topics are in different academic specializations, the students need to be able to edit their own papers for grammatical, lexical, stylistic, mechanical, and documentation errors. In this phase students typically

revised their first draft. Revision refers to reviewing and reworking a text. There are mostly two kinds of revisions and students had to consider both forms of them. In “internal revision” (Murray, 1978), or “revising to fit intentions” (Nold, 1982), students reread their drafts, discover what is said, match this message with what was intended to say, and rework (expand, delete, rearrange, alter) the content and structure of the written piece to make it matched with their intentions. In “external revision” (Murray, 1978), or “revising to fit conventions” (Nold, 1982), students edit and proofread their text to detect and correct any violations of conventions of grammar, diction, style, and mechanics. During revising the student should emphasize on evaluating and revising content; considering and revising organization; correcting their own grammatical weaknesses; examining vocabulary and style; editing mechanics; and checking documentation of sources. When university faculty read students papers, they respond primarily to the content such as: Does the paper discuss a topic accurately, thoroughly, logically, and creatively, with responsible acknowledgment of sources? Students receive feedback on how well their writing demonstrates understanding of the subject matter and original thinking. Then they had to revise their writings and return them to the language teacher.

It is necessary to add that these students had two more tasks to do. First they had to have lectures on their own topics, and second they had to make summaries of the lectures of other students. There was not any mid-term exam. And final exam was divided into three sections: (a) general English, (b) the student’s special topic, and (c) a report on the other student lectures.

The primary concern in the evaluation of effectiveness of content-based writing was whether or not the students improve in their ESP course. And the secondary concern was whether the students improved their grammar and vocabulary. The results proved significant and meaningful improvement of these students. These students showed improvement in all skill areas. Students became thoroughly familiar with the basic schemata for processing and communicating information in academic writing such as listing, definition, classification, summary, comparison/contrast, analysis, and academic argument.

However, more important, they were able to apply such schemata to the content studied in course-related readings and lectures and were able to analyze the wording of course writing assignments and also were able to determine appropriate organizational formats. The content-comprehension approach in which the students were not presented a structurally based syllabus helped students improve their reading comprehension as well as their grammar and vocabulary. It is additionally of interest that the improvement in grammar and vocabulary directed these students to a better and more or less competent writing. The scores were analyzed separately for pilot group, and also within the other students' scores in General English courses. The followings were the main outcomes reached.

1. In General English, the total scores obtained by these students were more or less similar to the scores of the students in ordinary General English classes.
2. The students of the content-based writing got higher scores on reading comprehension than the ordinary students.
3. The information they obtained during the course was more than those the ordinary students were faced with. This is because these students were exposed to more data on the subject than the ordinary students were.
4. There was a great distinction in the writing of these students and that of those in ordinary General English classes.

It was challenging both for the instructors and the students. But also a hard task since the instructors had so many readings and correcting work to do and the students were not used to this type of assignments. However, it was a nice experiment which is still continuing in our university. It is crucial to add that after 2 academic terms the language teacher became so competent in the field and the topic that there was no need to the content teacher. Content-based approach was centered on the student writing (rather than textbook models) as the central course material requires no strict, predetermined syllabus; rather, problems were treated as they emerged. "By studying what does our students do in their writing, we can learn from them what they still need to be

taught” (Zamel, 1983). Revision becomes central, and the instructor mediate throughout the composing process, rather than reacting only to the final product. Individual conferences and/or class workshops dealing with problems arising from writing in progress were regular and involved students very much.

## CONCLUSION

Instructors who choose to use a content-based approach to teach academic writing skills recognize that in the academic community, writing is a tool for assessing and promoting student understanding and independent thinking on specific subject matter; they seek to give developing students the same experience of “writing to learn.” For all academically oriented ESP students who are beyond an elementary proficiency level in English, there are ways to structure academic content-based instruction. ESL instructors can draw ideas from a variety of established native and nonnative programs. To determine the most suitable approach for a particular group of students, a number of factors must be considered: student status, academic interests shared by class members, English proficiency level, need/desire for intensive work on all skills versus emphasis on reading and writing, types of cooperative arrangements with subject-area instructors which are feasible, and subject-matter knowledge and interests of language instructors. At present, content-based ESL curricula are still relatively new at the university level. On a practical level, there is a need for faculty to develop, evaluate, refine, and share materials and pedagogical strategies for each of the five frameworks discussed in this article. On an empirical level, there is a need for research of all types—needs assessment studies to guide syllabus design and materials selection, curriculum evaluation studies, and controlled evaluation studies on the effects of receiving specific types of content-based instruction. Student and teacher reactions need to be documented systematically. Empirical data are needed to support the belief held by many that content-based instruction can help ESL students to become

more confident and competent when they tackle academic writing.

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