WRITING INSTRUCTION THROUGHOUT THE CURRICULUM

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During the past 25 years, Rhetoric and Composition Studies have joined together to create an interdisciplinary field whose theory and research have transformed our understanding of writing. New perspectives on the difference between process and product in writing combined with a deeper understanding of the relationship between thinking and writing have dramatically changed the way that writing is now taught. In addition, writing has become increasingly viewed as a *means*, not just an end, of learning. These insights first influenced instruction in composition classes; however, they soon led to the development of programs involving content courses throughout the undergraduate curriculum. According to a recent survey, 38 percent of American universities now have Writing-Across-the-Curriculum programs whose purpose is to increase the writing assigned in content courses and make writing instruction an integral part of courses in all disciplines (McLeod, 1989).

In the early 1970's, many compositionists assumed that general rhetorical strategies and composing skills were "portable." If students learned, for example, to generate or "invent" ideas and arguments or to organize these ideas into a coherent structure in their composition courses, they would later be able to apply and adapt this knowledge to the writing assigned in other university courses. However, this assumption not only underestimated the extent to which analytic approaches, disciplinary conventions, and "genres" of writing varied

within the university community, but it failed to recognize the importance of topic knowledge—the sine qua non in content courses.

Even when faculty in different disciplines agree about the importance of general writing skills such as the ability to analyze or critique a point of view, build an effective argument, or summarize and synthesize information from several sources, their apparent consensus is likely to disappear when differences in analytic approaches, argumentative structures, and types of writing among disciplines and courses are examined (Bamberg, 1985). Students often find such differences puzzling and contradictory, particularly when they are enrolled in introductory courses. For example, in a case study of one student's writing assignments during his freshman and sophomore years, McCarthy (1987) found the student confused by differences between the writing assignments and analytic approaches expected in Freshman Composition, Introduction to Poetry, and Biology. He saw little relationship between the writing skills he learned in composition and those needed to analyze poetry or summarize biological research studies.

Because the writing in various disciplines varies so greatly, writing-across-the-curriculum programs must involve faculty in all academic disciplines. Faculty with expertise in composition and rhetoric typically direct writing-across-the-curriculum programs, but their primary responsibility is to organize and conduct writing workshops that demonstrate varied purposes for writing, different types of writing assignments, and strategies for teaching writing in content courses. The workshops also suggest ways to restructure courses and redesign writing assignments so that instructors can emphasize writing and implement a process approach to writing instruction. However, individual faculty members are responsible for adapting these concepts and strategies for their courses and for implementing them (Fulwiler, 1987).

All writing-across-the-curriculum programs have a common goal: to improve student writing and learning by persuading faculty throughout the university to accept greater responsibility for teaching writing. However, programs vary considerably in their requirements and scope from one institution to the next. Some universities, for example, require students to complete additional "writing intensive" courses either in their major or from an approved list. Others, usually at smaller institutions, have no specific curricular requirements, but expect most, if not all, faculty to modify their courses to incorporate more writing and writing instruction (Fulwiler and Young, 1990).

In addition to differences in their structure and requirements, writing-across-the curriculum programs posit different relationships between writing and learning. In a recent article, Daniel Mahala (1991) contrasts expressivist and formalist approaches to writing-across-the-curriculum and the effect of each perspective on the writing assigned. Expressivist programs draw on the theory of language proposed by James Britton et. al. (1975) who contrast three functions of language: the expressive, the transactional, and the poetic. Even though most school writing is transactional, i.e., has the aim of informing, convincing or persuading in clear and concise prose, Britton and his colleagues argue that expressive language, which "reveals the speaker, verbalizing his consciousness" (p. 90) is instrumental in all learning and "should be regarded as a matrix from which the other two categories develop" (Britton, 1982, 124). As a result, programs based on the Britton's theory promote extensive use of expressive writing through "writing-to-learn" assignments which have been developed for courses in virtually every discipline.

The formalist approach, on the other hand, "stresses the need to teach students, directly and explicitly, supposedly normative ways of arguing and gathering evidence in disciplines" (Mahala, 1991, p. 779). The formalists' goal is to initiate novices into new interpretive communities by teaching them to "think-as" historians, literary critics, sociologists, etc. Formalists draw on expert-novice research in problem-solving to explain many of the difficulties students experience when they first encounter disciplinary-based writing assignments. They see writing assignments as analogous to "ill-structured" problems which have no set solutions and consider many of the inadequacies in the writing of beginning students to be similar to the concrete approaches typically used by novice problem-solvers. Formalists, therefore, teach students to use "expert" strategies and point out explicitly the discourse features found in different disciplines, arguing that such instruction helps students move more quickly from novice to expert behavior and to learn the skills needed for successful disciplinary-based writing. In contrast to the writing-to-learn assignments favored by expressivist programs, the formalist approach focuses on teaching the tacit conventions and procedural knowledge of a discipline as well as a discipline's methods of analysis and argument (Williams, 1990).

Mahala (1991) maintains that developers of writing-across-the-curriculum programs have failed to reconcile or even acknowledge the ideological conflict between an expressivist view of language which encourages "openly speculative, personal,

conversational writing" (p. 783) and a formalist view that opposes "private belief and disciplinary knowledge in the interest of excluding non-academic sources of cultural authority from playing a role in academic argument (p. 781)." Others disagree and see the two approaches as having similar and overlapping goals with differences largely a matter of emphasis, not of kind (McLeod, 1987). Certainly, descriptions of some of the best known writing-across-the-curriculum programs indicate that many are eclectic and use both expressivist and formalist strategies (Fulwiler and Young, 1990).

Whatever a writing-across-the-curriculum program's emphasis or institutional structure, the faculty writing workshops—the foundation of all programs—are designed to change faculty attitudes and pedagogical practices in at least three significant ways. First, instructors must see writing as a way of helping students learn, not just a means of assessing their learning. Next, they must learn to develop varied assignments that can serve different purposes and promote increased learning, and finally, they must learn to "coach" students during the writing process by giving them feedback on preliminary drafts instead of only judging and evaluating finished papers (Fulwiler, 1987; Walvoord, 1986; Fulwiler and Young, 1990).

Using pedagogical strategies consistent with a process approach to writing and accepting the role of "writing coach" necessitates adopting such pedagogical practices as requiring multiple drafts, commenting on problems in content, organization, and support in early drafts, and involving peers in reading and responding to drafts. With few exceptions, such practices require instructors to redesign writing assignments, restructure use of class time, and redistribute their schedule of responding to papers. For example, assigning two or three shorter papers spaced throughout the term instead of a single long paper due at the end gives students more opportunity for feedback during the semester as well as a chance to incorporate what they learn from their first paper into subsequent ones. Even when a long term paper is the most appropriate writing assignment for a course, instructors can use a process approach by requiring a proposal early in the semester that identifies the topic and main issues to be addressed and then giving students comments and feedback on preliminary drafts which focus primarily on the strength of the paper's argument and support. Responding to drafts rather than only to finished products enables instructors to intervene in students' thinking process and results in a greater impact on their learning and writing (Fulwiler, 1987).

To use writing to help students learn course concepts, a variety of "writing-to-learn" assignments have been developed. The academic journal, a widely-used writing task in programs with an expressivist emphasis, falls somewhere between a diary and a class notebook. In these journals, students engage in expressive writing by speculating about and exploring course concepts, reacting honestly to their academic experience, and examining their academic problems and progress. In addition to writing several journal entries per week outside of class, students regularly write in their journals during class. They may write for a few minutes at the beginning of a class on a topic that will be the focus of class discussion, during class to respond to a particular issue or topic, or at the end to summarize or synthesize the main points. Another common expresssive writing assignment is the "freewrite," a short piece of writing where students respond to a topic for 10-15 minutes, writing whatever comes to mind without worrying about audience, form, or correctness. Expressive writing is usually ungraded or graded only for credit/no credit since the primary audience is the writer and its purpose is often to help students explore ideas before tackling graded assignments that have a transactional function (Fulwiler, 1987).

In programs with a formalist emphasis, short, ungraded writing is more likely to focus on content and to engage students in disciplinary thinking, reading, and writing tasks. Instead of asking students to write in journals, instructors may create short assignments where students practice the analytic and critical thinking skills emphasized in their course and discipline. For example, in a first-year course in "Modern Civilization," students were assigned frequent out-of-class exercises which asked them to consider the key issues under discussion, then take a position and support it using historical evidence. The instructor also designed other short writing assignments which helped students identify bias in primary sources, state specific arguments that the source could support, and assess the source's value as evidence (Walvoord and McCarthy, 1991). In a required sophomore literature class, Walvoord (1986) created in-class writing assignments that served as the basis for discussing a different aspect of fiction each week—plot, character, theme, etc. As the semester progressed, the in-class writing exercises gradually become more like literary-critical responses and prepared students for the formal literary analyses they would later be required to write.

Most accounts of writing-across-the-curriculum programs have been descriptive rather than evaluative. However, two major research studies have examined the effectiveness of this new writing

curriculum. Faculty at Michigan Technological University, who developed a program based on Britton's expressivist language theory, carried out a number of evaluation studies which investigated the effect of using writing-to-learn assignments and a process approach to teaching writing. They surveyed faculty attitudes and classroom practices before and after writing-across-the-curriculum workshops, assessed changes in the writing skills of engineering students over five years, and examined the effects of pedagogical strategies such as peer review, analyzing models, and writing in journals. Their results, although preliminary, generally supported claims that teaching writing throughout the curriculum improved students' writing and learning (Young and Fulwiler, 1985).

More recently, Walvoord and McCarthy (1991) completed an indepth investigation into the effect of writing on learning in four courses: history, psychology, biology, and business. The instructors teaching the courses in the study had attended writing-across-the curriculum workshops conducted by Walvoord and collaborated with her to collect and analyze data on their writing assignments and their students' writing processes and papers. Results from this naturalistic study further support the basic assumption underlying writing-across-the-curriculum programs—that writing increases students' learning. Of equal importance, however, are the study's insights into students' learning processes and the difficulties students experience as they attempt to meet the expectations of different instructors and to respond to very different writing assignments.

Walvood and McCarthy (1991) documented substantive differences in the analytic skills and writing assignments in the four courses studied; however, they also identified several significant features common to the four courses. First, all instructors expected students to adopt the role of "professional-in-training," a role which required them to address the issues or problems in the writing assignment by using the content and methodology taught in the course. These roles differed from greatly from class to class: a business decision-maker in the business class, a research scientist in the biology class, an arguer/debater in the history class, and a social scientist/counselor/friend in the psychology class (pp 228-229). Instructors specifically rejected two non-professional roles: that of "text processor," where students summarized or reviewed information instead of addressing issues or solving problems, and that of "layperson," where students failed to use the knowledge and methodology taught in the course to solve problems (p. 8-9). Second, all four instructors also expected students to engage in what Walvoord

and McCarthy labeled "good/better/best reasoning," which required students to create a definition of "good," then formulate a defensible solution or position and build a rationale supporting their position. Finally, they found that students experienced difficulty in writing and thinking processes in six common areas: (1) finding enough specific information bearing on the problem or issue, (2) constructing the roles of audience and self when writing the paper, (3) stating a position, (4) using disciplined-based methods to reach and support a position, (5) managing complexity, and (6) organizing the paper (p 14).

In all four classes, Walvoord and McCarthy (1991) found that using a process approach to writing helped students manage the difficulties they encountered in their writing and thinking processes and that many students needed early guidance and specific instruction to complete writing assignments successfully. They and the four instructors concluded that

> students' ability and motivation—the two aspects the teachers had most commonly blamed for students' shortcomings—played less significant roles than the teachers had thought. We saw students trying hard to meet teachers' expectations—harder than we had often given them credit for. Students' failures to meet their teachers' expectation were often directly traceable to mixed signals by the teacher, or to instruction that was needed but not provided (p. 237).

Because students had particular difficulty in understanding how to use the "procedural" knowledge of a discipline to solve the problems or address the issues posed in their writing assignments, Walvoord and McCarthy (1991) recommend that teachers explicitly guide students through essential procedures rather than expecting them to read descriptions of procedures and then apply them independently.

Although Walvoord and McCarthy's findings should not be overgeneralized, their extensive data and indepth analysis provide useful guidelines for developing and organizing writing instruction throughout the curriculum. Equally important, their research supports claims that writing improves and increases college students' learning. As a result, writing-across-the-curriculum programs are likely to become an even more important component of university writing programs in the years ahead.

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