

1 Introduction

In this study, writing assignments as part of the secondary school curriculum are examined to determine their use in fostering learning and integrating new information with previous knowledge and experience. Our previous studies have suggested that writing is rarely used in these ways, in part because as a profession we lack a clear understanding of the kinds of learning that writing can foster, and in part because we lack careful explanations of how to plan and carry out such activities. The present study seeks to address both those needs.

Our interest in the uses of writing in the school curriculum is based on our belief that the effective teaching of writing is an essential component in any successful school program: to improve the teaching of writing, particularly in the context of academic tasks, is also to improve the quality of thinking required of school children. In taking this view that good writing and careful thinking go hand in hand, we are hardly alone. Historians who have studied the development of literacy have cited the acquisition of writing within a culture as a fundamental factor in the development of modern thought — promoting in particular those types of discourse (and those types of thinking) we label “rational” or “scientific.” They attribute this development to the fact that the act of writing facilitates a logical, linear presentation of ideas, and to the permanence of writing (as opposed to the fleeting nature of talk), permitting reflection upon and review of what has been written. Written language not only makes ideas more widely and easily available, it changes the development and shape of the ideas themselves. Following in this tradition, advocates of “writing across the curriculum” have stressed the role of writing in learning, and this approach is now gaining in popularity among both teachers and researchers (Applebee, 1977; Fulwiler and Young, 1982; Gere, 1985; Marland, 1977; Maimon, 1981; Martin, 1984; Martin, D’Arcy, Newton, and Parker, 1976; Newkirk and Atwell, 1982; Young and Fulwiler, 1986). Thinking skills are taught best when related to some content, the argument goes, and writing provides a particularly welcoming context for thinking deeply about such content.

Writing and Thinking

Growing acceptance of the role of writing in thinking, however, has not led to equal success in improving the teaching of writing or in developing reasoned and disciplined thinking among American school children. The most extensive data on student achievement in the United States come from the National Assessment of Educational Progress (NAEP, 1978, 1981; Applebee, Langer, and Mullis, 1985, 1986a, 1986b, 1987). Across a variety of assessments, the results suggest that American schools are doing a reasonable job of teaching lower-level skills; results from tasks requiring more complex reasoning skills, however, are much less encouraging. The 1981 report found that by age seventeen, most students were able to read a range of material appropriate for their age level and to formulate and express their initial interpretations of that material. Unfortunately, as the report stated,

Students seem satisfied with their initial interpretations of what they have read and seem genuinely puzzled by requests to explain or defend their points of view. As a result, responses to assessment items requiring explanations of criteria, analysis of a text, or defense of a judgment or point of view were generally disappointing. Few students could provide more than superficial responses to such tasks, and even the "better" responses showed little evidence of well-developed problem-solving strategies or critical thinking skills. (2)

Our 1986b report on achievement makes it clear that the problem continues:

A major conclusion to draw from this assessment is that students at all grade levels are deficient in higher order thinking skills. The findings indicate that students have difficulty performing adequately on analytic writing tasks, as well as on persuasive tasks that ask them to defend and support their opinions. Some of these problems may reflect a pervasive lack of instructional emphasis on developing higher order skills in all areas of the curriculum. Because writing and thinking are so deeply intertwined, appropriate writing assignments provide an ideal way to increase student experiences with such types of thinking. . . . Students need broad-based experiences in which reading and writing tasks are integrated with their work throughout the curriculum. (11)

Put simply, in the whole range of academic course work, American children do not write frequently enough, and the reading and writing tasks they are given do not require them to think deeply enough.

The role of writing in thinking can be conceptualized as resulting from some combination of (1) the permanence of the written word,

allowing the writer to rethink and revise over an extended period; (2) the explicitness required in writing, if meaning is to remain constant beyond the context in which it was originally written; (3) the resources provided by the conventional forms of discourse for organizing and thinking through new relationships among ideas; and (4) the active nature of writing, providing a medium for exploring implications entailed within otherwise unexamined assumptions.

If this is correct, and if writing is so closely related to thinking, we might expect to be able to cite a variety of studies that support the contribution of writing to learning and instruction. Yet recent reviews of the relevant literature (see Applebee, 1984) make it obvious that there has been little research on this issue. Research on writing has been remarkably slow in examining the ways that writing about a topic fosters further learning about the topic. Two different traditions contribute to this lag in research: the first treats the process of writing as the rhetorical problem of relating a predetermined message to an audience that must be persuaded to accept the author's point of view. In this tradition the writing problem is one of audience analysis rather than of thoughtful examination of the topic itself. The second tradition assumes that the process of writing will in some inevitable way lead to a better understanding of the topic under consideration, though how this comes about tends to be treated superficially and anecdotally. Although we ourselves have enthusiastically advocated writing across the curriculum and related reforms, we have found no convincing research base for these programs.

Thus we began this study with two very broad types of questions. The first focused on the effects of different writing tasks on learning, and the second focused on classroom implementation of writing activities to support instructional goals in academic classrooms. The first set of questions asked: What contribution, if any, does written language make to intellectual development? Why, if at all, should we be concerned with the role of writing in our culture in general and in our schools in particular? To what extent should we strive to make clear and effective writing a "central objective of the school" (Boyer, 1983, p. 91)? If we do, can we assume that we will also be helping students develop the "higher order" intellectual skills and "skilled intelligence" demanded by the National Commission on Excellence (NCE, 1983)?

Writing and Instruction

Our concern with the role of writing in learning is part of our broader concern about the nature of effective instruction. Traditional approaches

to the teaching of writing have been prescriptive and product centered, emphasizing the formal structure of effective discourse. At the sentence level, this approach has led to an emphasis on the rules of grammar and usage; at the text level, it has led to an emphasis on the characteristics of the traditional modes of discourse (narration, description, exposition, persuasion, and sometimes poetry). In its purest form, this approach consists of analyzing classic examples of good form, learning the rules that govern those classic examples, and practicing following the rules (either in exercises of limited scope or by imitating the classic models). In secondary school instruction, Warriner's *Handbook of English Grammar and Composition* (1951) is the archetypal example of this approach, and in its many editions it is the most widely used high school composition text today.

The 1970s and 1980s, however, brought a major change in accepted approaches to writing instruction. In direct opposition to the focus on the final written product, there was a groundswell of support for "process" approaches to the teaching of writing. Paralleling our general concern with writing as a way of thinking, advocates of these approaches emphasized the thinking strategies underlying the processes of composing a text. Still, the definitions of process approaches vary considerably from one teacher to another. In general, such approaches are marked by instructional sequences designed to help students think through and organize their ideas before writing and to rethink and revise their initial drafts. Activities typically associated with process approaches to writing instruction include brainstorming, journal writing, emphasizing students' ideas and experiences, small-group activities, teacher-student conferences, multiple drafts, postponing concern with editing skills until the final draft, and deferring or eliminating grades. For convenience in instruction, process activities in writing are often subdivided into stages such as prewriting, drafting, revising, and editing, usually with the caveat that the processes are recursive rather than linear, complex rather than simple.

Arising as a radical response to an overemphasis on the final written product, process approaches in their various manifestations have become the conventional wisdom, at least among leaders in the teaching of English. The journal literature of the 1980s has been dominated by suggestions on how such approaches can best be implemented, and influential programs such as the National Writing Project have helped to make such approaches more widely known.

Process-oriented approaches to writing would seem to have a natural affinity with our concern for the role of writing in academic learning. Both emphasize the active role of the writer, who must organize and

reformulate ideas and experiences in the process of writing about them. Both treat learning as ongoing and cumulative, with errors to be expected (and even encouraged as a natural concomitant of tackling new and more difficult problems). And both imply renewed attention to the processes rather than simply the outcomes of instruction.

However, process-oriented approaches to writing instruction have not been widely adopted outside the English classroom (and even in English, they are more likely to occur in composition lessons than as part of the teaching of literature). As our previous studies have indicated, teachers of other subjects have few models of how such approaches to writing might work to foster academic learning in their classes. And teachers are understandably reluctant to devote much time to these approaches if they do not promote learning of the teachers' own subjects (Applebee, 1981; Applebee, Langer, et al., 1984). Teachers do not know what trade-offs would be required in their own instructional goals, or what benefits might ensue in terms of students' subject-area learning if they were to engage in more process-oriented writing instruction. At the same time, inquiry-based learning has been widely advocated in such subjects as science, social studies, and mathematics. There is a natural affinity between such emphases and the goals of process-oriented writing tasks, although the links between inquiry or process approaches in the subject areas and process approaches to writing instruction have not been carefully developed.

Further, recent reports have also indicated that process-oriented approaches to writing instruction have been relatively ineffective in helping students to think and write more clearly. Although some of the writing activities that students engage in have changed, these changes have not led to proportionate changes in achievement. Our report on the National Assessment results summarized the problem:

Some students did report extensive exposure to process-oriented writing activities, yet the achievement of these students was not consistently higher or lower than the achievement of those who did not receive such instruction.

Since students who plan, revise, and edit are more likely to be better writers, the NAEP results support the national emphasis on teaching the writing process. Students who use the kinds of process strategies we think teachers should be teaching have higher writing achievement. The results, however, do not indicate that classroom instruction in the writing process has been effective. This suggests that the new instructional approaches are treating the writing processes in a superficial manner. Students are not learning to link process activities with problems they face in their own writing. (Applebee et al., 1986b, pp. 12-13)

Thus the second cluster of issues that shaped the present study had to do with the implementation of process-oriented writing as part of subject-area teaching. Could such approaches to writing contribute to students' learning of new material in a variety of subject areas? What problems would teachers find in adapting such approaches to their own purposes? Are there common strategies that might be effective across a range of different teaching contexts? Or will each subject (or each teacher) have its own configuration of most useful writing activities?

The Research Agenda

To answer these questions, we took a two-pronged approach. One prong of our research examined the specific thinking and learning processes involved in various writing tasks, to learn whether writing in fact supports learning and, if so, to seek evidence of the different contributions that various types of writing activities can make to subject-area learning. Such research is essential before we can knowledgeably suggest that asking students to write is an important part of the teaching of subject-area content, not just a favor to the English department.

The other prong of our research examined writing and learning in collaborative classroom settings, with teachers working closely with the research team to find new ways in which extended writing could be integrated into their ongoing classroom activities. Originally, we conceived of this series of studies as analyses of the problems and benefits that subject-area teachers could expect in the course of broadening the uses of writing in their classrooms. We expected to emerge with a series of well-developed case studies that would provide models to which teachers could turn for help in the process of modifying their own approaches. But we were able to do this only in part. The teachers found that it was relatively easy to modify the pattern of activities in their classrooms, broadening the uses of writing in which their students engaged. But the teachers also found that in some cases such changes in classroom activities also led to a fundamental change in what counted as "knowing" a subject, and with that a reassessment of the role of the teacher and the role of the student in the whole pattern of classroom interaction.

Thus, rather than focusing solely on models of practice, this report has a broader theme: Recent reforms in the teaching of writing offer more than a series of new activities to achieve more effectively teachers'

current instructional goals; they also have the potential to transform our conceptions of the nature of teaching and the nature of learning in school contexts. This is a larger agenda than we had bargained for; the discussions that follow are a beginning rather than a final solution to the questions we raise.

Overview of This Report

In the report that follows, chapter 2 provides a summary of the larger project, highlighting the data gathered and the kinds of analyses we undertook. Chapter 3 provides a detailed introduction to our observations of teachers and their students, with some general findings about ways in which they used writing in the teaching of academic content. Chapter 4 describes the types of writing activities that worked in a variety of content-area classrooms. (In so doing, this chapter comes closest to our original intention of developing models of successful teaching.) In chapter 5, our focus turns away from the activities provided and toward the redefinition of teaching and learning that occurred in the classrooms where writing worked best to foster academic learning. Chapters 6 through 8 examine the kinds of thinking and learning promoted by different types of writing. We describe the different ways that students deal with content based on the writing task they engage in and the different kinds of learnings that ensue. Chapter 9 brings together our concerns about the role of the teacher and the role of the learner in the instructional interaction, providing a theoretical framework, practical suggestions for an alternative model of instruction, and a discussion of the constraints that must be addressed if wide-scale use of writing to support learning is to become a reality.