DOCUMENT RESUME

ED 232 213 CS 207 779

AUTHOR Tchudi, Stephen N.; Huerta, Margie C.
TITLE Teaching Writing in the Content Areas: Middle School/Junior High.
INSTITUTION National Education Association, Washington, D.C.
REPORT NO ISBN-0-8106-3227-7
PUB DATE 83
NOTE 65p.; For related documents, see CS 207 777-779.
AVAILABLE FROM National Education Association Professional Library, Academic Building, P.O. Box 509, West Haven, CT 06516 (Stock No. 3227-7-00, $4.95); National Council of Teachers of English, 1111 Kenyon Road, Urbana, IL 61801 (Stock No. 31573; $4.95 members, $5.95 nonmembers).
PUB TYPE Guides - Classroom Use - Guides (For Teachers) (052) -- Books (010)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Content Area Writing; *Curriculum Development; Elementary Secondary Education; Instructional Materials; *Integrated Activities; Junior High Schools; Middle Schools; Teacher Role; Teaching Methods; Writing Evaluation; *Writing Exercises; *Writing Improvement; *Writing Instruction

ABSTRACT

The second in a series on content area writing instruction, this booklet is intended for middle school and junior high school teachers who have taught writing but who want to move into content writing topics and for teachers who are novices at teaching writing but who think content writing instruction might be an important skill to teach their students. The three sections of the booklet demonstrate how content area instruction can be integrated into existing curricula, enhancing instruction rather than being a separate component. The first section offers some basic principles and procedures that show how to start content writing in the classroom. The second section offers specific model units and lessons. The third section, concerned with applications and extension, shows teachers how to move beyond the sample lessons to develop specific materials for their own classrooms and includes a discussion of evaluation and grading of content area writing. (HTH)

Teaching Writing in the Content Areas:

MIDDLE SCHOOL/ JUNIOR HIGH

Stephen N. Tchudi
and
Margie C. Huerta

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Note

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Library of Congress Cataloging in Publication Data

Tchudi, Stephen, 1924-
Teaching writing in the content areas: middle school/junior high.

Bibliography: p.
1. English language—Composition and exercises. 2. Report writing. I. Huerta, Margie C. II. National Education Association of the United States. III. Title.
LB1631.T26 1983 808'.042'0712 82-24652
ISBN 0-8106-3227-7

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Introduction

WRITING IN THE CONTENT AREAS— WHAT IS IT? WHY DO IT?

These days no one seems satisfied with the way Johnny and Jane write: not parents, not school administrators, not the media, not teachers, not even Johnny and Jane themselves. There are many scapegoats for this "literacy crisis," but one of the most exciting ways for teachers to help their students become more effective writers is through writing in the content areas: using language as the medium through which subject-matter learning takes place.

Of course, all writing has content. One can no more write without content than make an omelet without eggs. This publication suggests, however, that teachers be concerned not only with the language children use to express academic content, but with the accuracy of the content as well; that writing skills be sharpened on subject-matter projects, not just on isolated language arts exercises.

The relationship between language and content is not a recent discovery. The Greeks, insisting that the rhetorician be knowledgeable in many fields, saw the good public orator as one who could skillfully and persuasively marshal arguments on a wide range of subjects. During the Middle Ages, interest in content and language was revived; the language subjects of *grammar*, *rhetoric*, and *dialectic* (or logic) in the medieval curriculum were said to underlie such content-area disciplines as mathematics and natural science. In our own time another revival of interest in content-area writing is occurring. English/language arts specialists have observed that writing skills taught in isolation from content are not likely to be learned successfully. Students need to apply their language skills to real communications tasks, including writing in science, geography, social studies, mathematics, and vocational and career education.

Writing can also offer a teacher ways of eliciting information that are far more interesting to students (and teacher) than conventional examinations. For example, when studying the Amazon River Basin, the teacher who has students write vividly about an imaginary journey up the Amazon will help them understand the river in ways missed by the teacher who merely has them fill in blanks on an answer sheet. Similarly, when students write imaginatively about scientific principles—say, using their knowledge from a unit on fuels to write a futuristic story about transportation—they will learn their subject more effectively than when they merely master the basic

concepts in the textbook.

Writing is a practical skill, one of the most useful a student can learn, but it is valuable for more than classnotes, examinations, and research reports. Writing in the content areas can transform notetaking—the writing down of facts to be remembered—into journal keeping, when students interact with and respond to subject matter content. It can turn the traditional unit on the business letter into a real exercise in communication when students write genuine letters to live people in an attempt to learn something for class. It can change examination writing from regurgitation to imaginative synthesis and integration of ideas.

The claims of writing in the content areas to be part of the curriculum are many, but those that follow articulate some of the most persuasive reasons for all teachers to attend to the teaching of writing as well as to the teaching of content or subject matter.

1. *Writing about a subject helps students learn better.* The outcome of content writing programs is not simply improved language skills (an important end in itself), but improved learning of subject matter. If writing provides opportunities for students to play with ideas and concepts, then students will come to understand the subject more richly and deeply than before.

2. *Writing about content has practical payoff.* Perhaps the biggest reason Johnny and Jane do not write well is that they have not had enough practice doing it. Teachers whose students write frequently on content-area topics are providing a great service to those students, including short-term payoff (better writing of school papers) and long-range rewards (becoming successful writers at higher levels of education and in the real world).

3. *Content writing often motivates reluctant writers.* English compositions are often badly written because the topics are bland and banal: "My Summer Vacation," "The Most Unforgettable Character I Ever Met." Many so-called nonwriters are merely writers waiting for an engaging content-area topic to come along: *computers, science, history, futurism.* Writing about content gives substance to student writing and helps inspire many inexperienced and previously unmotivated writers.

4. *Content writing develops all language skills.* Although the principal concern here is writing, language skills are so tightly interwoven that a better title for this publication might be *Teaching* Literacy *in the Content Areas: Reading, Writing, Listening, Speaking.* The model units demonstrate this by including supplementary reading, questions for talk and discussion, and even opportunities for drama and media composition.

5. *Teaching writing teaches thinking.* According to an old, but accurate, cliche', one does not understand an idea fully until one can write about it. We do not believe that one can teach thinking the same way one can teach the multiplication tables, but it is clear that a student who is a good writer is generally perceived by his or her teachers as an effective thinker as well. Learning to write involves learning to think, and writing is unique in allowing students not only to think, but to display the products of their thinking in a form that invites further contemplation.

HOW TO USE THIS BOOK

This book is written with a very broad audience in mind. It is designed both for teachers who have previously taught writing but who want to move into content-writing topics and for teachers who are novices at teaching writing but who think it might be important to do with their students.

Part I, then, offers a primer for the writing teacher—novice or experienced—some basic principles and procedures that show all teachers just how easy it is to start content writing in their classes. Part II offers specific examples—model units and lessons—and some teachers may wish to turn directly to that section and examine the pedagogical principles later. Part III, concerned with applications and extensions, shows teachers how to move beyond the sample lessons to develop specific materials for their own classrooms.

Throughout the book, we have taken pains to show that teaching writing in the content areas is *not* an add-on, not just another burden for the busy teacher. Content writing can be integrated within the existing day, within the existing curriculum, enhancing instruction rather than becoming an independent component of it. Even theme evaluation, which is often perceived as a task so large as to discourage teachers from teaching writing, can be integrated naturally into the content teaching of a class.

This book also has another broad audience in mind, an indirect audience: the students of the teachers who will read it. We have taught writing in the content areas in inner-city schools, in a summer writing camp for youngsters from disadvantaged settings, in suburban schools, in afterschool young writers' workshops, and even to college students and faculty members. We have seen that it can energize previously uninspired writers—of whom there are a vast number in this country. Finally, then, we hope that the ideas and examples presented here will motivate the teachers who read them to join the ranks of those teachers who already see the enormous value and pleasure involved in teaching writing in the content areas.

Part I

A Primer on Teaching Writing in the Content Areas

You don't need a college degree in English to teach content-area writing. You don't have to be an expert in grammar or know how to diagram a sentence or be able to explain the difference between a direct and indirect object. You don't have to be a walking dictionary or thesaurus, and you don't have to be an expert on contemporary usage and style. You don't even need to feel you are an outstanding writer yourself (although that certainly wouldn't hurt). In short, you don't have to be trained as a specialist to teach interdisciplinary writing.

As a matter of fact, if you are *not* a specialist, you may have a distinct advantage: namely, that you don't have a preconceived notion about how writing "must" be taught. Too often the teaching of writing has been made overly complex by specialists, especially in teaching students complicated and abstract concepts of rhetoric and grammar. This primer keeps things simple, not because we underestimate your intelligence or experience, but because you can carry out content-area writing instruction successfully if you keep in mind just a few precepts and apply them consistently. As a matter of fact, one principle is central to our philosophy of content-area writing. From it, all else follows:

Keep content at the center of the writing process.

This principle gives *clarity of content* top priority. Students first need to know a subject well and then must be committed to presenting their thoughts clearly to an audience. Good writing follows from that formula. You probably know from your own experience the effect knowing the material can have on your writing. Can you recall going into an exam feeling shaky about your mastery of the subject? What

happened to your writing? Did it become weak, tentative, evasive, or uncertain, betraying your limited grasp of the content? Was it different when you went to the exam with the material clearly in mind? Chances are it was then more confident, firm, and vigorous, even forceful and clear.

But good writing involves more than mere subject matter knowledge. Many adults know volumes but cannot write successfully. Sometimes that can be traced to a failure to focus knowledge, to take a stance or point of view toward it, or to phrase the material for a particular kind of reader. Too many school writing assignments use writing solely as a way to "prove" mastery of content by repeating what was learned in class and from texts. In such cases, students do not focus their writing or take a stand on the material. In contrast, a well-designed writing activity builds in stance and point of view and even provides an audience for writing to assist students in organizing their knowledge and in selecting a structure for it in writing.

Much of teaching writing in the content areas consists not in telling students *how* to write, but in creating situations where they want to write and want to write well, using their subject-matter knowlege in the process. The four steps discussed in the next few pages are those used in our own teaching and in developing the model content-area activities that appear in Part II.

A PROCEDURE FOR DEVELOPING CONTENT-AREA WRITING LESSONS

1. Determine content objectives. Whatever you are teaching, the first question to answer is: What do you want your students to learn? Content-area writing works best when it involves *discovery*, *synthesis*, and *inquiry* rather than recitation of factual material. Although teachers *can* use writing to have students merely list what they know on a subject, often a multiple-choice or short-answer test is more efficient and truer to the use of language for that purpose. Save the real writing assignments for the times when you want students to put their learning together and apply it to new situations.

As an illustration, suppose a teacher was doing a unit on the solar system. In a factually oriented class, the learning objectives might focus on such matters as knowing the names of the planets, their location in space relative to the sun, their characteristics, and, perhaps, the origins of their names in classical mythology. Such information—if it were the only aim of the unit—would be examined most easily through multiple-choice or short-answer tests.

A teacher interested in having students *synthesize* and *apply* their knowledge might have a broader set of objectives, such as helping students come to—

- Understand (or at least partially comprehend) the vastness of the solar system—to feel the distances, not just know them.
- Explore the possibilities for travel to the other planets (possibly as an antidote to the impressions created by popular television programs).
- Understand the various theories of the origins of our solar system and weigh the evidence supporting each theory.

Unit objectives would be rather broad, possibly creating the framework for several weeks' work. Presumably the teacher would also create more specific objectives for individual class lessons and/or writing activities.

In any event, the cardinal principle is that *content objectives should be established first*, prior to the writing activities.

2. Develop writing ideas to explore the objectives. Often teachers think of writing assignments in only two discourse modes—the essay and the report—and give them in barebones fashion, with few instructions to the writer:

> Write an essay or report on the origins of the solar system and explain the locations of the nine planets.

Sometimes the assignment specifies length as well:

> Your paper should be at least two pages (or ten pages or 500 words or 1,000 words in length).

Most of us have probably written papers on topics that were not spelled out in much more detail. Such assignments often fail because they do not explore the range of writing forms available to the student and they supply little assistance to the writer. By their very brevity they invite failure.

There are a number of ways to express content ideas in writing, and a good interdisciplinary writing program will explore many of them. The principal objectives of the solar system unit, for example, can be explored in several different modes of discourse, including the following:

> *Fiction*—"Write a short story about travel from one planet to another, with your hero or heroine telling about what he/she observes."

Journalism—"You are the editor of *Interplanetary Gazette*, a video newspaper that is circulated throughout the solar system. Write some news stories telling what life is like on each planet."

Media—"Suppose you were preparing a television special about the solar system. Write a plan for the program. What kinds of information and film shots would you want to include?"

The writing can, of course, be done in more conventional forms of school writing:

Essay—"What do you think about the possibilities for space travel in your lifetime? Write an essay in which you suggest just how common you think interplanetary travel will be by, say, the year 2050."

Report—"Rocketry has come a long way since World War II, when crude rockets were first used in warfare. Make a study of the major advancements in rocket design in the past forty years and write a report."

Figure 1 is a list of the different kinds of discourse forms that can easily be drawn upon for content-area assignments. In our own teaching we use this list and try to create a range of choices for students so that they are regularly encountering new ways to express their knowledge. The essential question for the teacher at this point is: How can students best get their ideas on the subject into writing? Sometimes the form of a *play* or a *story* will be best. At others, a letter written to another person may be a good option. Older students may find expository writing easier to do than some of the so-called creative writing forms, but creative writing of poems, plays, stories, songs is an appropriate way to express ideas at all levels.

Whenever possible, we offer our students a range of writing ideas with several different ways to satisfy the main assignment. We have already given five options on the solar system topic. But teachers can have students consider projects that go beyond spoken or written language into art and music:

Draw or paint your impressions of the planet Venus.

Or:

Find some classical music that fits your impressions of the planet Venus and play it for the class or to back up your drawing of what you think the planet looks like.

SOME DISCOURSE FORMS FOR CONTENT WRITING

- Journals and diaries
  - (real or imaginary)
- Biographical sketches
- Anecdotes and stories:
  - from experience
  - as told by others
- Thumbnail sketches:
  - of famous people
  - of places
  - of content ideas
  - of historical events
- Guess who/what descriptions
- Letters:
  - personal reactions
  - observations
  - public/informational
  - persuasive:
    - to the editor
    - to public officials
  - to imaginary people
  - from imaginary places
- Requests
- Applications
- Memos
- Resume's and summaries
- Poems
- Plays
- Stories
- Fantasy
- Adventure
- Science fiction
- Historical stories
- Dialogues and conversations
- Children's books
- Telegrams
- Editorials
- Commentaries
- Responses and rebuttals
- Newspaper "fillers"
- Fact books or fact sheets
- School newspaper stories
- Stories or essays for local papers
- Proposals
- Case studies:
  - school problems
  - local issues
  - national concerns
  - historical problems
  - scientific issues
- Songs and ballads
- Demonstrations
- Poster displays
- Reviews:
  - books (including textbooks)
  - films
  - outside reading
  - television programs
  - documentaries
- Historical "you are there" scenes
- Scence notes:
  - observations
  - science notebook
  - reading reports
  - lab reports
- Math:
  - story problems
  - solutions to problems
  - record books
  - notes and observations
- Responses to literature
- Utopian proposals
- Practical proposals
- Interviews:
  - actual
  - imaginary
- Directions:
  - how-to
  - school or neighborhood guide
  - survival manual
- Dictionaries and lexicons
- Technical reports
- Future options, notes on:
  - careers, employment
  - school and training
  - military/public service
- Written debates
- Taking a stand:
  - school issues
  - family problems
  - state or national issues
  - moral questions
- Books and booklets
- Informational monographs
- Radio scripts
- TV scenarios and scripts
- Dramatic scripts
- Notes for improvised drama
- Cartoons and cartoon strips
- Slide show scripts
- Puzzles and word searches
- Prophecy and predictions
- Photos and captions
- Collage, montage, mobile, sculpture

FIGURE 1

While these latter projects are not the heart of a *writing* program, they suggest yet another interdisciplinary connection and use some of the essential processes of writing, including finding an idea, locating information, organizing the information for an audience, and presenting it.

Finally, we like to give our students one additional choice:

> If none of the ideas I've given you about writing about the solar system appeals to you, make up your own idea. Just check with me before you begin to write.

The more students write, the more likely they are to have developed their imaginations and the more likely they are to choose that open-ended topic, in essence, inventing their own assignments. So much the better, we think.

As part of our writing projects, we also try to build in an audience for student writers. Including provisions for an audience in an assignment helps students write for someone other than the teacher and adds a strong element of reality to the writing process. The audience for writing can be an imaginary one—especially for younger writers:

> After months of travel through outer space, you have landed your craft on Mars. Once you have stretched your legs and gotten use to the lower gravity, you decide to send a Space-O-Gram back to your earthbound family. What do you tell them about what you have seen?

Sometimes the audience becomes the other students, who can be invited to join in the fantasy and role play the audience or even write back from the point of view of that audience:

> Your parent has just sent you a Space-O-Gram from Mars describing life on that planet. What additional questions do you have? Write a Space-O-Gram back requesting more information.

Often, however, the audiences for student writing can be real, giving writers a sense that their writing can be helpful in the real world:

> Write to the National Aeronautics and Space Administration in Washington, D.C., requesting information on NASA's future plans for interplanetary space travel.

Other audiences for student writing can range from the class to other students in the school to administrators to parents to public officials (at the state or local level) to nationally famous people. Whenever feasible, then, add focus to writing activities by specifying the real or imaginary audience for them.

A good composition assignment or activity not only needs to be explicit, it should also make clear to students precisely what they must do to complete the assignment successfully. For example, inexperienced writers almost invariably want to know something about length—"How long does it have to be?"—a habit often learned in classes where teachers had them write to specific word lengths—500 or 1,000. Instead of turning students into word counters, help them understand how long a composition should be in terms of its intrinsic need to satisfy the assignment. The appropriate length of a piece of writing is *long enough to get the job done*, but teachers can supply some hints:

> Write up an interview between the astronaut who has just returned from the moon and a reporter for the evening news. Think of five or six good questions for the interviewer to ask and then write the astronaut's answers.

Or:

> Have your astronaut write a summary of his/her observations about the possibility of life on planet Mars for the Director of NASA. The Director is a busy person, so make the summary as concise as possible, but don't leave out any important details.

The assignments should also make clear the purpose of the writing (especially if students are writing an examination). Students should know from the teacher's oral or written comments just why this writing is being done:

> To show that you understand how our solar system works, write as if you were a comet, just entering the system and heading toward the sun, describing what you see.

It is also important for the oral or written assignment to include some guidance to get students started finding any material they need to complete it successfully. This might be as simple as reading a chapter in the textbook:

> After you have read the chapter on planets in your text,

pick one planet and write a brief description of it in your journal.

More often (and more imaginatively) the assignment can suggest sources of ideas beyond the classroom:

> The Astronomers' Club invites guests to its meetings. If you think you'd like to attend one, let me know and we'll make arrangements. That way you'll have some firsthand information for use in your solar system paper.

Or:

> Go to the library and get a biography of Galileo. After you've read it, either write a description of the solar system as he imagined it, or pretend you are Galileo and write a letter to a friend describing all the difficulties you are having persuading people to accept your view of the solar system.

No single written assignment can fully teach writing or prepare students to engage with complete success in the writing process. But we hope this section has helped teachers see the range of content-area writing possibilities that exists, as well as the importance of careful design and planning of the assignment for a successful student writing experience.

3. Teach writing and learning. Once the assignment is made, the real content teaching begins, but as we emphasized earlier, *teaching content is also teaching writing.* This can be divided into several stages: *prewriting*, *writing*, *revising*, *copyediting*, and *presenting and publishing*.

Prewriting. Before students put pen to paper, their preparation is very important. This is the time when they either master their basic content or fail to understand it, with predictable results in their writing. Although teachers at the upper levels may want to assign an impromptu theme from time to time as preparation for examination writing, the impromptu, with its focus on instant writing, is generally a poor form for practice; it is something only advanced writers can do successfully. We urge teachers to spend a great deal of time at the prewriting/learning stage—an hour, a day, sometimes a week or more—helping students gather information and prepare to write. Good content teaching enters at this point as students read, discuss, and think about their material.

Here are some ways the teacher can focus the prewriting stage:

■ Have students keep logs or notebooks or journals of their learning. These should contain basic notes or ideas, of course, but more important, they should provide students with an avenue to respond in personal terms to what they are learning. They can write about their puzzlements, amazements, astounding and interesting facts, and things "I never knew before." Journals of this sort are usually left ungraded, simply checked from time to time by the teacher for their informational content.

■ Provide prewriting discussions of the topic and assignment. Sometimes this can be done in small groups; at others, through teacher-led discussion. In the discussion students can talk over questions about the assignment, where they can find information, the audience for the writing, the range of choices and options available.

■ Encourage students to develop their own set of planning strategies. *Don't require formal outlines for papers.* Instead, urge students to make plans, in writing, according to a pattern that feels comfortable to them. Some people like to make long, elaborate sets of notes before writing, others prefer to jot down just a few words. Still others like to go through their notebooks or journals, circling the important ideas and numbering them in order, finally jotting down a plan for writing as a final journal entry. Every writer needs to do some planning before writing, but the conventional outline inhibits more student writers than it helps.

Such written planning, even if done on scratch paper, helps the teacher ensure that the student has, in fact, mastered or understood the content material. If students cannot plan, jot down some notes or ideas on paper, the teacher has a clue that more prewriting is necessary.

■ Have students talk through their papers with the teacher or another student before writing. This oral strategy is extremely helpful in clarifying the thoughts and ideas of young writers before they commit themselves to writing. It need not take long—perhaps five or ten minutes—and it invariably produces good results in terms of the clarity and focus of the writing.

Writing. Many teachers think of the writing stage as a time to sit back and relax, a time to wait before the onslaught of another batch of papers for grading. But *as* students write, teachers can do much to help raise the quality of their writing and learning.

When students are writing during class time, the teacher can take an active role. For example, monitor facial expressions—they often tell when a student is starting to get in a jam and needs help. Float about the class during a writing assignment, glancing at first para-

graphs and rough beginnings, offering advice if it seems needed and respecting students' need to be left alone if your presence makes them nervous. In other words, help students get it right *while* they are writing and encourage them to solve their problems the first time around. This helps cut down on the amount of revision needed later.

Also encourage students to talk to one another during the writing process—unless, of course, the writing is an examination of some sort. There are great benefits from such forms of peer collaboration as encouraging writers to bounce ideas off one another, reading draft paragraphs aloud to seek advice, pumping their friends for new ideas. As long as this collaboration occurs publicly and within the spirit of fair play, there is no danger of students cheating or turning in something that is not their own.

Other ideas for teaching during the writing process:

- Tell students not to worry about spelling, punctuation, and mechanics at the rough draft stage. If their concerns about correctness inhibit them from writing, however, encourage them to ask questions about correctness as items or problems come up. Be sure not to attach any penalties or embarrassment to such requests for help.
- Provide assistance for students who get stuck with a writing block. Nine times out of ten such a block comes from a content failure: the writer just does not know what to say about the topic. But other problems can lead writers to freeze while writing. If students cannot get the opening paragraph down on paper, suggest that they write the second paragraph first and not worry about the beginning until later. Sometimes a little free association will help unclog a pen. Some writers even write the *end* of their papers before going back to write the earlier parts. Conversation is also an unblocker, and the teacher can help out by simply saying, "Tell me what it is you want to write about." Once the student has told about his or her plan, the teacher can say, "You've just done it. Now all you have to do is write it down."
- Provide as much support as possible through the content matter of the writing. Help students focus on what they know and the audience with whom they will be sharing their knowledge. That kind of focus will bring clarity to their writing.
- Create the tone of a collaborative workshop in the class. Don't let the room be a silent tomb where everyone works at writing in isolation.

It is probably obvious that we generally favor in-class to out-of-class writing. When students are writing on school time, teachers can control the process much more successfully. However, even if stu-

dents write at home, teachers can monitor their progress. For example, teachers can urge students to keep in touch as they write and to give them daily progress reports on papers being written outside class. If a student has some writing problems and cannot solve them, it is better to hear about them before the day the paper is due.

Revising. Research in writing shows that astonishingly few young writers—elementary, secondary, even college level—know much about revising a paper. To many students, "revise" simply means, "Make a clean copy in your best handwriting." However, as numerous professional writers have reported, good writing usually means good *re*writing. Drafts are often rough and inaccurate, representing a struggle to get words down on the page. Rewriting brings focus and clarity. It is important that teachers encourage revision as a part of every paper they assign.

It is also important to distinguish between *revising* and *copyediting*. The latter has to do with the surface correctness of the manuscript, and it should occur at the end of the writing process. *Revising* means working with the content of a paper—moving ideas around, adding needed information, taking out redundant material.

Revising can often be a community activity, with students serving successfully as their own editors, commenting on their papers and making suggestions for changes. To initiate a group revision session, divide the class into threes or fours or fives, either self-selected or teacher-assigned groups. Then have students share papers—sometimes with the author reading the draft of his/her paper aloud to the group, sometimes with papers passed around for written comments and responses. Caution students that this is not a red-penciling session for nitpicking about spelling and grammar. Nor is it an opportunity for cutting down their neighbors. Rather, it is a way for writers to get some sense of how their papers affect a small group of readers. It is the single best way we know of to help writers see the kinds of changes they need to make.

Small group revising of papers also helps solve a problem that may be the biggest barrier to teachers' doing more content-area writing: the theme-correcting burden. Many teachers we have met say they would like to do more writing in their classes, but they do not have time to correct all the papers students produce. To such teachers we recommend peer revising. It reduces theme grading to a reasonable level in several ways:

1. It places the responsibility for revision with the proper person—the *writer*.
2. The group work involved creates flexible time for the teacher to use for individual conferences, providing concrete help on a

face-to-face basis that is far more efficient than writing comments on themes.

3. The papers turned in are better than those that are simply dashed off in class and given to the teacher to read. Many teachers who use group revision report theme reading to be a pleasure, not a chore, consisting primarily of logging in good, successful papers rather than penning critical comments on a batch of rough drafts.

Of course, the teacher cannot be passive in peer revising sessions—they are not successful by magic. The teacher needs to structure them carefully so that students know what is expected and precisely how to go about revising one another's work. To begin such a session, review the assignment with the class, reminding students what was expected, for whom the paper was written, the kind of content it was to contain, and so on. Then have students respond to the paper in terms of the content that it presents. Is it clear? Does it make sense? Can other students understand it? Could outsiders understand it? What changes would help? A good way to organize these sessions is to provide the class with a sheet with a few focus questions for the day as shown in Figure 2. A longer list of questions for teachers to use to make their own revising sheets appears in Figure 3. Naturally, the complexity of these question can be adjusted to match the skills of students.

SAMPLE REVISING SHEET

Today I want you to focus on whether or not the writer kept the audience in mind during the writing process. Answer these questions in your small groups.

1. Who is the best audience for this paper as it is written? Can you describe the people who would be most interested in it?
2. Did the writer tell the audience everything it needs to know to understand the topic? Help the writer figure out if anything is left out.
3. Did the writer perhaps tell too much? Is there more information here than an audience can possibly handle? Help the writer figure out where to cut.
4. After you have completed your small group discussion, write a note to the author, reacting to the paper as if you were a member of the audience.

FIGURE 2

OTHER QUESTIONS FOR REVISING GROUPS

Note: Do not have students ask *all* these questions (or similar ones) at every revising session. Rather, pick some questions that seem most appropriate to your assignment and have the students work on two or three each time.

PURPOSE

- Where is this writing headed? Can readers clearly tell?
- Is it on one track, or does it shoot off in new directions?
- Is the writer trying to do too much? Too little?
- Does the author seem to *care* about his her/writing?

CONTENT

- When you're through, can you easily summarize this piece or retell it in your own words?
- Can a reader understand it easily?
- Are there parts that you found confusing?
- Are there parts that need more explanation or evidence?
- Are there places where the writer said too much, or overexplained the subject?
- Can the reader visualize the subject?
- Does it hold your interest all the way through?
- Did you learn something new from this paper?

ORGANIZATION

- Do the main points seem to be in the right order?
- Does the writer give you enough information so that you know what he/she is trying to accomplish?
- Does the writing begin smoothly? Does the writer take too long to get started?
- What about the ending? Does it end crisply and excitingly?

AUDIENCE

- Who are the readers for this writing? Does the writer seem to have them clearly in mind? Will they understand him/her?
- Does the writer assume too much from the audience? Too little?
- What changes does the writer need to make to better communicate with the audience?

LANGUAGE AND STYLE

- Is the paper interesting and readable? Does it get stuffy or dull?
- Can you hear the writer's voice and personality in it?
- Are all difficult words explained or defined?
- Does the writer use natural, lively language throughout?
- Are the grammar, spelling, and punctuation OK?

FIGURE 3

Not all teachers are comfortable with peer revision of papers. There can be some problems: students do not always give one another good advice; sometimes group members do not have rapport; and sometimes students give each other bland approval instead of needed criticism. Nevertheless, we strongly urge teachers to try peer revising more than once—don't just try it once and give it up if it doesn't seem to work right away. This method helps students learn to become responsible for the quality of their own work, and in that respect, it is one of the most important skills a young writer can master.

Copyediting. It is extremely important that teachers not introduce concerns for spelling, punctuation, and mechanics too early in the writing process. And it is important that students learn how to get their final copies into standard edited English. But such concerns should not take priority over matters of content.

Now is the time for teacher and students to be concerned with correctness, after the paper has been planned and organized and shaped and drafted and revised. Now is the time for the teacher to have students work on spelling problems and usage errors, guiding them to the correct forms. We believe it is crucial for the teacher to train students to take responsibility for the final correctness of their work. The teacher should not be a copyeditor.

A great deal has been written in recent years about the appropriateness of compelling all students, especially those who are members of racial and ethnic minorities, to write in a uniform standard English. In general, composition researchers have come to feel that it is inappropriate to try to eradicate the dialect of a student's upbringing, and, further, that dwelling on matters of correctness seldom teaches "good English" and often inhibits students from writing well. At the same time, there is a "real world," a world that penalizes and even ridicules those who do not adhere to the conventions of standard written English.

We suggest that the concern for correctness be introduced very gradually, and that at no time a student be made to feel that the dialect he or she uses quite comfortably at home and with peers is somehow inadequate or second-rate. Most dialects, in fact, are both sophisticated and appropriate for the situations in which they are used. The best route to correctness is through publishing student writing, a topic to be discussed next. Further, small group work is again helpful in giving students an awareness that the conventions of standard written English are not just arbitrary—they help people communicate more successfully. In a group of four or five students,

most major misspellings and usage errors can be identified, even with very young writers. The copyediting sessions will not always produce perfect papers, but they will help students learn how to go about this final stage of the process. We are confident that teachers who try group copyediting for a semester or a year will be happy with the results, and will see students grow in their ability to check their own papers.

However, teachers who are not satisfied with the results of these sessions can follow up with written comments and suggestions on the papers. We do *not* recommend marking every error on every paper, a chore that is time-consuming for the teacher and disheartening for the student. Rather, we suggest picking one or two errors that seem to come up regularly in the student's work and concentrating on those.

Above all, don't give student writers the impression that correctness is the be-all and end-all of writing. Keep the focus and the praise on *content*, and work on mechanics gradually, as a peripheral matter.

Presenting and publishing. Writing that is done solely for the teacher, or solely for a grade, is often not highly motivated. To motivate students to do their best writing, include provision for presentation and publication whenever possible. This can be as simple as posting papers on a bulletin board or having them read aloud to the class; or publishing class newspapers and magazines, using ditto or mimeograph to produce something students can take home and share. Pat Edwards, a teacher in New South Wales, Australia, has compiled a list of 101 different ways to publish student writing,[5] including the following:

- Books (individual books, collaborative books, textbooks written for the whole class)
- Newspapers (school news, family news, natural science reports)
- Magazines (on almost any conceivable subject matter topic)
- Plays (as a way of presenting written ideas for an audience)
- Letters (sent within the class through a postal system or letters actually mailed)
- Bulletin boards and display centers
- School assemblies (for presenting work orally, often with audiovisual aids)
- Storefront displays (getting student writing out into the community)
- Tape recording (to create an oral library of writing).

Publishing writing provides an incentive for students to do a good job of revising and copyediting, but more significantly, it shows them that writing is important because it brings them a readership and a response or reaction. It is the payoff to the writing process.

4. Followup. Too often writing assignments seem to be made in isolation, as one-time-only events unrelated to the rest of the class and its activities. When writing in the content areas is well taught, it provides natural possibilities for additional work. One writing idea leads to another: a piece of fantasy writing becomes the starting point for a series of stories; a kitchen science experiment with electricity suggests ideas for a booklet on similar experiments. Other areas of a topic can be explored through writing, leading to a classroom where students have a piece of content writing in the works at all times. Even the presentation stage of writing can lead to followup activities, as one piece of student writing generates a response from students that encourages them to start off on a new writing project. Writing leads to writing, as the model lessons that follow demonstrate.

LESSON FORM FOR CONTENT-AREA WRITING ACTIVITIES

1. Determine content objectives.
2. Develop writing ideas that explore the content concepts.
3. Teach writing and learning:
   A. Prewriting
   B. Writing
   C. Revising
   D. Copyediting
   E. Presenting and Publishing
4. Followup

FIGURE 4

Part II

Model Units for Teaching Writing in the Content Areas

Teachers can study the units that follow in one of two ways: (1) they can read them and glean the principles of interdisciplinary teaching from them before designing their own lessons, or (2) they can test some of the lessons in their own classes. We think the second option is preferable in that teaching, like writing, is a learn-by-doing skill. The comments and suggestions will probably make more sense if the ideas are tested in the classroom. In this case, it will be helpful to know that each unit is designed to stand independently of others, and none requires any previous experience teaching writing in the content areas.

The units vary in length. Some can be completed in a day or two; others may require a week. Drawing on the suggested followup activities, some can be extended to a month or a year. Teachers should not feel it is necessary to make their content lessons as complete and lengthy as the ones described here—they can whittle them down to the size that fits their own class. Further, these are lesson ideas, not blueprints. Many alternative ideas and teaching strategies have been included so that units can be adapted to the needs of students.

COMMON CURES FOR COMMON DISEASES

Folk cures for common diseases are as old as history. Not surprisingly, many of them work, despite seemingly "unscientific" or even fanciful potions and procedures. Nor have folk cures disappeared with the advent of modern, scientific medicine. For common ailments, most people have pet remedies that rely on traditional rituals. Why does chicken soup work (for some) as a cure for a cold? Why is breathing into a paper bag a way to get rid of the hiccups? Why do people feed a cold and starve a fever (or is it the other way around)? This unit has students examine the basis of folk cures and compare them to modern remedies.

Content Objectives

- To investigate the scientific basis of folklore remedies.
- To learn some techniques for informal historical research and reporting.
- To learn some of the causes of common diseases.
- To learn to separate fact from myth.

Writing Ideas

The project suggests several writing possibilities:

Option 1. Through prior arrangement, students write to a local physician or school nurse describing what they learn about folk cures and their scientific basis. The medical professional then either writes back to the individual, or, more likely, to the class as a whole—or visits the class for an hour to discuss the scientific basis of the folk cures. The person may also be willing to describe how modern medicine treats these ailments.

Option 2. Students write letters to the editor of an imaginary journal, *The Journal of Folk Medicine*, describing their observations about traditional home remedies. Then, using a standard first aid manual, they conduct research into scientific cures and draft letters back to themselves evaluating their own cures.

Option 3. Students write a short monograph summarizing cures that seem to be popular and traditional in their area, comparing similarities and differences among versions of the cures.

Writing and Learning

Prewriting

Begin this project by reading to the class some nineteenth century cures for common diseases from Isabella Beeton's *Book of Household Management* (see Figure 5). When students have finished reacting to the idea of applying leeches to a bruise or have pronounced themselves ready to get sick at the thought of taking the Beeton cold remedy, help them see that these remedies (and others like them) were widely practiced a hundred years ago. Further, despite occasional absurdity, some elements of each remedy probably worked. (Few gnats and "musquitoes," for example, will bite a face or hands covered with olive oil. Lying down with a wet "napkin" across the nose *will* help end a nosebleed.) Have students discuss why they think Beeton's remedies grew to be popular.

Then remind them that folk remedies are part of our culture today. As an assignment, have them plan to conduct interviews with other students, school staff members, parents, grandparents (if possible), or elderly people in their neighborhood. They should ask these people (and record the answers) for their pet "recipes" to cure such maladies as:

common cold	cuts
coughing	burns
sneezing fits	stings and bites
headache	nosebleed
hiccups	hangover

(Do any informants spell the word "hiccoughs"? Why?)

This data collection may require several days and will lead to some lively class discussions. Appoint one or several students to be class secretaries during the discussions, writing down some of the similarities and differences that appear among the various cures.

Writing and Revising

Next present the writing options. Option 1 has the advantage of a real audience—a local medical professional—and the promise of a reply to students' observations. Option 2 provides an imaginary audience and involves students in answering their own questions and commenting upon their own hypotheses. Option 3 is an activity in writing local history as students summarize their findings.

Each of the three options can be pursued as group or individual projects. If students work in groups, they can cluster according to their interest in various diseases (the sneeze group, the bee sting

CURES FOR COMMON DISEASES

From *The Book of Household Management: Comprising Information for the Mistress, Housekeeper, Cook, Kitchen-Maid, Butler, Footman, Coachman, Valet, Upper and Under House-Maids, Lady's Maid, Maid-of-All Work, Laundry-Maid, Nurse and Nurse-Maid, Monthly, Wet and Sick Nurses, Etc. Etc., Also, Sanitary, Medical & Legal Memoranda: with a History of the Origin, Properties, and Uses of All Things Connected with Home Life and Comfort*, by Mrs. Isabella Beeton. London: S. O. Beeton, 1861. (Reprinted by Macmillan, 1978)

BLEEDING FROM THE NOSE. Many children, especially those of a sanguineous temperament, are subject to sudden discharges of blood from the nose. A wet towel laid suddenly on the back, between the shoulders, and placing the child in a recumbent posture is often sufficient to effect the object; where, however, the effusion resists such simple means, napkins wrung out of cold water must be laid across the forehead and nose, the hands dipped in cold water, and a bottle of hot water applied to the feet.

THE BITES AND STINGS OF INSECTS, such as gnats, bees, wasps, &c., need cause very little alarm, and are, generally speaking, easily cured. Bathing the bitten part with warm turpentine or warm vinegar is of great use. If the person feels faint, he should lie quietly on his back, and take a little brandy-and-water, or sal-volatile and water. Rubbing the face and hands well over with plain olive-oil, before going to bed, will often keep gnats and musquitoes from biting during the night. Strong scent, such as eau-de-Cologne, will have the same effect.

BRUISES AND THEIR TREATMENT. The best application for a bruise, be it large or small, is moist warmth; therefore, a warm bread-and-water poultice in hot, moist flannels should be put on, as they supple the skin. If the bruise be very severe, and in the neighborhood of a joint, it will be well to apply ten or a dozen leeches over the whole bruised part, and afterwards a poultice.

TO CURE A COLD. Put a large teacupful of linseed, with ¼ lb. of sun raisins and 2 oz. of stick liquorice, into 2 quarts of soft water, and let it simmer over a slow fire till reduced to one quart; add to it ¼ lb. of pounded sugar-candy, a tablespoonful of old rum, and a tablespoonful of the best white-wine vinegar, or lemon-juice. The rum and vinegar should be added as the decoction is taken; for, if they are put in at first, the whole soon becomes flat and less efficacious. The dose is half a pint, made warm, on going to bed; and a little may be taken whenever the cough is troublesome. The worst cold is generally cured by this remedy in two or three days; and, if taken in time, is considered infallible.

FIGURE 5

group, the hiccupers). Students who work individually can write their findings and compare them with those of the rest of the class.

When students complete their drafts, have them form groups to respond to each other's papers. Now all will be "experts" on contemporary folk medicine; thus their suggestions for revision should be mutually beneficial.

Preparing Final Copy

The letters to the local physician or school nurse must be proofread especially carefully, because of community members' sensitivity to errors in the writing of youngsters in tax-supported schools. With the other two options, proofing should also be done carefully, but the teacher can be selective in deciding which language problems most deserve attention.

With Option 1 students then anticipate the day when the physician or nurse comes to reply to their letters. With Option 2 a new writing project begins: working with a modern first aid manual, students start to figure out responses to their own letters, including discovering explanations about why their cures work. With Option 3 students produce a class notebook or monograph, which can be displayed or perhaps sent to the president of a local historical society for commentary. Alternatively, students choosing Option 3 might prepare a simple one- or two-page summary of their work—a home first aid guide of their own.

Followup

■ Another form of modern folk remedy is the over-the-counter drug—Contac, Anacin, Tylenol, Vicks Vap-O-Rub. Often people take these medicines without knowing what is in them or why they work. Have students investigate the ingredients of these drugstore cures and why/how/if they work.

Or

■ Have students write a report on the varying claims of drugstore remedies as promoted in television and magazine advertising.

■ Sports medicine is a curious mix of scientific cures and folk remedies. Every coach or trainer has his/her special methods for getting an injured athlete back on the field as quickly as possible. Arrange for students to interview high school coaches/trainers or to talk with their gym instructors to gather information about sports cures. The findings can lead to a written report, an editorial, an oral class presentation, or even a demonstration.

THE DAY YOU WERE BORN

We believe that the formal "research paper" or "term paper" should not be taught in middle schools and junior highs because such a project often forces students to write in a stuffy manner (if it does not encourage them to become encyclopedia cribbers). At the same time, learning how to research a topic—or, less formally, how to find information using a variety of resources—is a very useful skill for students of this age. In this project, students engage in some historical "research" about a date in history of great importance to them: the day they were born. The project gives them a sense of how a historian works without forcing on them the rigors of the college preparatory term paper.

Content Objectives

- To engage students in a piece of historical research.
- To help them understand a variety of historical sources.
- To encourage them to learn about life and culture in an era other than the present (although one not far removed from the present).
- To learn the historical facts about the day they were born.

Writing Ideas

For this project, students are to learn about what was happening in the world and in their town on the day they were born. They can communicate their findings in a variety of ways:

- Write a narrative about how your parents got you to the hospital. When did the big event take place? How long did it take? As you write, try to weave in other details about life the day of your birth. For example, what tunes were playing on the car radio during the drive to the hospital? What were the news headlines?
- Role play a radio newscaster on the day of your birth. What were the main national stories? What was important locally (other than the fact that you were born)? Write the script for your broadcast, tape-record it, and play it for the class.

■ Be a disk jockey on the day you were born. What are the top ten tunes? Try to obtain copies of some of these songs and play them for the class. How many are still heard today, familiar to you and your friends? Write notes for a brief oral presentation to the class.

■ How has life changed during the decade or more that you have lived? What were things like on the day of your birth in terms of the following:

clothing fashions	movies
sports	hairstyles
cartoons and comics	entertainment
technological gadgets	business
food prices	automobiles

Describe the principal changes you see that have taken place. If possible, bring in illustrations, such as items clipped or photocopied from newspapers, magazines, or catalogs.

Writing and Revising

Prewriting

After introducing the idea of the unit and presenting the various writing options, help students think about ways to find answers for their project. Remind them that looking for resources—or clues—is precisely what historians do to find out what happened at some time in the past.

For this project, the single best resource will be local newspaper files, and teachers will need to do a little preliminary research to learn where these are available. Some school libraries and media centers maintain files of old newspapers, but more likely students will need to visit the public library or the newspaper office to see back issues, which are probably stored on microfilm or microfiche. If a field trip is possible, arrange to take the whole class to the newspaper archive; students will enjoy hearing the details concerning storage and maintenance of such records as well as learning how to operate any necessary viewing or screening equipment. Alternatively, make arrangements with the librarian or newspaper archivist for students to come in on their own (in reasonable numbers, at reasonable hours) to do their research.

If students will be working in the library—school or public—introduce them to other records that might be helpful in their search. Newsmagazines such as *Time* and *Newsweek* are a second-best source to the newspaper, because they include many national stories as well as features on sports, entertainment, fashion, medicine, etc.

Since the newsmagazines will not provide details of events occurring on the *precise* date of a student's birth, teachers can expand the time window a bit by suggesting that researching the *week* or the *month* of the birth will be adequate. Students can also learn how to locate other, specialized magazines such as *Seventeen* and *Sports Illustrated* to learn about the era of their birth.

Other types of historical archives are available—high school yearbooks and community reports, for example—which the school or public librarian can probably tell students about. However, we suggest not complicating the project, especially if this is the students' first foray into historical research. Instead, have them turn to *human* or *oral* resources, namely, their parents. (Of course, students who do not live with one or both parents are handicapped here, and the teacher should not attach any stigma to them.) Students should plan to interview their parents about the day they were born, recording all the facts and observations in some sort of log or journal. In the process, they will learn a good deal about historical research. They may discover, for example, that their parents' memories differ on many details. (If that happens, what would the historian do? Students may be able to figure out that they can verify some facts through other sources, perhaps the newspaper for a debate over the weather, or a neighbor for the color of the maternity outfit mother wore to the hospital.)

Writing and Revising

Continue the prewriting search for ideas and information until every student has enough ideas to write. Then have students draft their chosen writing idea (including options they may think of in addition to the proposed topics). If the prewriting has been thorough, the rough draft writing should come fairly easily. As students write, however, circulate around the class and troubleshoot, looking for students who seem to be stuck, trying to help them start.

When students have completed their drafts, have them exchange papers with each other. Partners should read with specific questions in mind:

> Are the facts clear? Do I know what is happening? Can I understand the sequence of events or the main points? Can I visualize in my mind the fashions or the weather? Are any key details left out?

Repeat the process with at least one more exchange of papers so that at least two readers go over each draft.

Next have students redraft, making changes or insertions as their readers (and teacher) have suggested. Finally hold a copyediting/polishing session to correct errors in spelling, mechanics, and usage.

Presentation

This project can lead to a very attractive multimedia presentation or display. In addition to writing about the day they were born, students may want to bring in family or baby pictures, including hospital "mug shots" of the newborn baby. They may also have found other "artifacts" of their birth: the hospital birth record or a registered birth certificate, the infant's hospital identification badge, notes and letters of congratulations from relatives, a copy of the birth announcement in the local newspaper. All these items can be displayed along with the writing. At the same time, if some students have elected the radio broadcast alternative, the class can enjoy listening to the tapes.

Followup

Since most of the students were born in the same era, their collected writings can lead to some interesting discussions about the nature of history writing. Ask students to compare their impressions about what life was like when they were born. Are there any disagreements about what it was like? Did student researchers come up with alternative stories or conflicting reports about fashions or music or world events? How can they resolve conflicts to present a single, coherent interpretation? (Some classes may even have students who were born on the same day. Compare their reports.)

Other followup projects can include the following:

- Write to some of your relatives asking them to write their impressions about the day you were born. How do their views differ from your discoveries through your own research?
- Collect some stories about funny incidents of your early childhood (before the time when you can remember). Write these up in your journal or notebook and save them for future enjoyment.
- Find out why you were named as you are named.
- Write about your earliest memory (probably at age three or four). What is it? Who in the class can go back the farthest in memory? (Be cautious though—sometimes incidents people think they remember about their early days are simply stories others have told them.)

MEASURING THE ARRIVAL OF SPRING

Measurement is the heart of both mathematics and science. How big are objects? How many of them are there? How deep is something? How tall is it and is it the tallest? Such questions involve the close observation of science coupled with the computational skills of mathematics. This unit factors *writing* into the math/science equation, using journals and logbooks as class records evidence of the onset of spring (or any other season the teacher may choose).

Content Objectives

- To provide an exercise in scientific observation and inductive reasoning.
- To enable students to practice mathematics and recordkeeping skills.
- To help students see how language influences as well as records one's ideas and observations in science.

Writing Idea

Students keep a journal recording their observations of the arrival of spring, including dates, times, quantities, and their own reactions to what they are observing. This journal can be a log maintained by the whole class, or it can be individual notebooks kept by students. After maintaining the records for a reasonable period of time, students write a short paper on the topic "When does spring begin?"

Writing and Learning

"Spring" is a complex verbal construct—a word that describes a host of interrelated and interconnected observations. Punxsutawney Phil, the Pennsylvania groundhog that appears each February 2, is said to set spring forward or back six weeks, depending on whether or not he see his shadow. Weather forecasters and astronomers set spring at March 21, come rain or sun or blinding blizzard outside their offices. For some, spring is the day they see the first robin; for others, it is symbolized by the first flower. For teachers, spring is

represented by the first outbreak of student malaise on the first genuinely warm day of the year. For the poet, spring is the topic of innumerable verses dealing with nature and rebirth.

Begin this unit by describing for students your own view of when spring begins. Is it a shirtsleeve day? a bud appearing on your favorite tree? Then have them carry out an informal journal or free writing exercise jotting down for discussion the signs of spring they usually look for. Discuss the topic "When does spring begin in our part of the country?" Write students' best guesses about the dates of spring's arrival on the chalkboard. Have them draw on their free writing to suggest the signs of spring, and list these on the board as well.

Eventually help individual students (or pairs or trios) choose a phenomenon to study for the next month or so. One group, for example, can keep track of snowfall and rainfall; another can record daily and nightly high and low temperatures. Some students can stake out a square of earth in a flowerbed and keep track of what comes up; others can start a birdwatch recording the numbers and kinds of birds they see. Some students or groups can keep track of other indicators: When do people shed heavy winter coats for windbreakers? When do the windbreakers go and people come to school in T-shirts?

Whether they keep an individual log or a common class logbook, students should use three categories:

1. Factual observations—what they actually see.
2. Quantities—the numbers, lengths, weights, etc., of the phenomena they observe.
3. Reactions and responses—their own human reactions to what they see and observe.

At first, category 3 is the most difficult for students to understand. It invites them to write whatever they wish about their observations of the natural world. Initially, they may not have much to say, contenting themselves with merely listing the facts of their observations. Eventually, however, most students will become emotionally involved in the project—cheering when the overnight low stays above 32° for the first time, delighting when the first plantlet pokes its head out of the dirt in their patch of land, bubbling over with excitement when the first robin appears. Provide class time for students to share these observations and moments of excitement.

In this project the logbook is an end in itself. Students need not revise and polish it or transform it into another piece of writing. However, the logs make an excellent display for other classes to observe and study.

To conclude the unit, ask students to write a second time on the topic proposed at the beginning: "When does spring begin in our part of the country?" Remind them of their earlier answers to that question and invite them to reconsider those answers in the light of their scientific observations (as well as their human responses and intuitions).

Followup

- How do the mass media handle the coming of a new season? Have students collect advertisements from newspapers and magazines to show how the media herald the arrival of a new season. Is there much correlation between, say, the weather outside and the spring fashion displays in ads?
- Let students write about the arrival of spring from the point of view of the phenomena they studied—for example, from the point of view of a robin, the soil, a dog, a lilac bush, or anything else they choose from the environment.
- Encourage students to creatively write poems describing their feelings and emotions inspired by a new season. Emphasize that the emotions should be real, described in accurate language, not something that sounds poetic but says nothing.
- Have students write that old chestnut, "My Summer Vacation," *in advance*, presenting a wildly imaginative, delightfully speculative description of what would happen to them in the best of all possible summers.

THE BROWN BAG LUNCH BOOK

Every child who has ever carried lunch to school has complained about the monotony: peanut butter, bologna, processed cheese on white bread, as well as the "nutritional" tidbits like carrot sticks or celery stalks. A good parental response to such complaints is, "Why don't you fix lunch yourself and see if you can do any better?" This unit puts students to the test and helps them organize a "scientific" research and experimentation program to create lunches that are not only novel, but healthful. Then they publish the results in a new variation of the research report—a cookbook—which can be distributed to students and their families or perhaps developed as a school fundraiser.

Content Objectives

- To engage students in an informal piece of scientific research.
- To teach some principles of health and nutrition.
- To teach elementary research skills.

Writing Idea

Introduce the aims of the project by priming students to express their complaints about cafeteria food and the food they bring from home. After the discussion, offer the challenge "Can you do any better?" Explain the basic project: to create a class booklet of recipes that are novel, presumably easy to prepare, and healthful.

Writing and Learning

Prewriting

In this project, the prewriting phase is unusually long and especially important. Students do considerable research and planning before putting their ideas in writing. In fact, the writing is essentially an after-the-fact record of their discoveries.

Once the challenge has been made, bring in a supply of cookbooks with good sections on making sandwiches, salads, desserts, etc. Start

with an omnibus cookbook such as *The Joy of Cooking* or *The Betty Crocker Cookbook*. In addition, check the school library or media center for specialty cookbooks, including those with a health food orientation and those written by or for youngsters. Some examples:

Gene Malis and Jody Cameron Malis, *The Mighty Marvel Superhero Cookbook* (New York: Simon and Schuster, 1975)

Donna M. Paananen, *The Naturally Nutritious Cookbook* (Milwaukee: Ideals Publishing Co., 1978)

Carla Stevens, *How to Make Possum's Honey Bread, Skunk's Chocolate Sprinkle Bread, and Raccoon's Raisin Bread, Too* (New York: Scholastic Book Services, 1975)

Jill Pinkwater, *The Natural Snack Cookbook* (New York: Four Winds Press, 1975).

Start students reading the cookbooks and copying recipes. (Show them a simple bibliographic form such as the one in the previous paragraph so that they can acknowledge the sources of their ideas.) One possibility is to subdivide the class into specialty areas to look for recipes in such categories as

Alternative kinds of sandwiches
Portable salads and other good things
Snacks and desserts that are good for you.

Eventually each member of a group can take responsibility for preparing a recipe or two and bringing it to school on Brown Bag Lunch Day. Students can chop sandwiches into canape size for sampling, for example. The teacher should arrange for a supply of paper plates, napkins, forks, etc., for the event. (Often a local fast food eatery will contribute some of these materials.)

Before Brown Bag Lunch Day, have students design a simple evaluation form such as the one shown in Figure 6. The form should provide a means for class members to evaluate their creations systematically. Then have students bring in samples of their recipes, share them with the class, and evaluate one another's efforts.

EVALUATION FORM
Brown Bag Lunch Day

Food item: _____

What did you like best about this item? _____

_____

What do you think can be done to improve the taste (or is it great as it is)?

_____

_____

What ingredients in this item are good and nutritious? _____

_____( ) Can't tell.

Are any ingredients *not* particularly good or nutritious?_____

_____( ) Can't tell.

On a scale of 1 (low) to 5 (high) rate the item:

TASTE	1	2	3	4	5
NUTRITION	1	2	3	4	5
APPEARANCE	1	2	3	4	5
OVERALL	1	2	3	4	5

FIGURE 6

Writing and Revising

After the evaluation (and possibly after students have had an opportunity to revise their recipes), organize the class to write the cookbook. In addition to merely copying the recipes, students can write the results of their evaluations and add "gourmet" reviews and commentaries on individual dishes. They can also create interesting titles for their concoctions and recommend combinations that go well together. Helpful hints they have learned about cooking can appear in an introduction written by a member of the class. At this stage, students will have collected so much information that they should have many ideas to include in the book. When they have prepared their drafts, divide the class into pairs or small groups to check each other's work, first for content, then for correctness.

Preparing Final Copy

The *Brown Bag Lunch Book* can take one of several forms. It can be a one-of-a-kind scrapbook, which includes individual recipes. If the group wants to publish the book for a larger audience, a good medium is ditto or mimeograph, with students in a typing class preparing some of the copy. In its most ambitious form, an offset press can run hundreds of copies of the book to be sold to other students or to parents as a school fundraiser.

Followup

- Depending on the scope of the project, students can also write their recipes to submit for publication to the editor of the foods section of a local newspaper.
- Students may also enjoy having guest speakers from various food-related industries come to class to describe their work. This, in turn, may lead to a more general unit looking into th . sources and preparation of food in the United States today.
- All-American Un-American Cookery is another ɡ ood topic for a cookbook, with students researching recipes originat.ng in foreign countries that have become popular in the United States today.

TECHNOLOGY AND THE INDIVIDUAL

It is common knowledge that technological advancements revolutionize the way people live. In our high tech age, the advancements are coming very rapidly and the impact time for new gadgets is shorter than ever. As writers such as Marshall McLuhan and Alvin Toffler have warned, it is important for people not only to use the new technology, but also to understand how using it can affect the way they see and operate in the world.

Content Objectives

- To help students understand the ways in which technological devices and advancements influence their lives.
- To give students firsthand understanding of the operating principles of some contemporary devices.
- To provide students with some understanding of the historical development of a technological society in the United States.

Writing Ideas

This is an expandable unit. In its short version, the teacher can give students the choice of any of the topics that follow. In its longer version, the class can complete several or all of these projects. Each project has numerous options and possibilities, allowing for individualization. "Technology and the Individual," then, can provide the basic writing ideas for an entire term's work in English, social studies, science, or a combination of disciplines.

Topic A. "Where Did It Come From?" Read the history of various devices and inventions that are part of our everyday lives. Among the inventions to study are the following:

light bulb	typewriter
radio	milking machine
refrigerator	television
tractor	train
telephone	printing press
automobile	airplane

Learn about the people who invented these devices and why they did so. When you know the story, prepare a written report or a talk for the class. How did each of these devices help change our lives?

Topic B. "Our Lives Without Technology." Have students list devices and appliances they use regularly: toasters, radios, stereos, electric guitars, electric toothbrushes . . . . Then have them write an essay, or perhaps better, a short story, describing what their lives would be like without such devices.

Topic C. "How Things Work." Get a book from the library that explains the inner workings of a machine or device. For example, in *This Is the Way It Works* (Doubleday, 1980), Robert Gardner shows the simple operating theory of such devices as fluorescent lights, movie projectors, lasers, coffeemakers, thermos bottles, zippers, matches, microwaves, artificial kidneys, and air hockey games. Choose an invention that interests you and learn how it works. If possible, don't just read about it, study one of the devices and explore its inner workings. (Do not take anything apart without permission, however, and do not experiment with anything electrical without qualified supervision.) Then plan an oral demonstration or a written report for the class. Or, contribute one chapter to a class book, *How Things Work.*

Topic D. "Why Things Don't Work." Have you ever bought something new and been disappointed because it didn't work very well or didn't work at all? Have you ever looked at a gadget and said, "I could have designed it to work better?" In *How Things Don't Work* (Pantheon, 1977), Victor Papanek and James Hennessey argue that many common devices do not work as well as they should because designers are more interested in making things look pretty than in making certain they work. Think about something around your house that doesn't work as well as it should—from the fork to the television set. Insofar as you can, explain why you think the device doesn't work well and what you think could be done to improve it. In some cases, you can write a letter to the manufacturer with your suggestions. Otherwise, write a description of your proposed improvements, or, if possible, build a working model and bring it to class.

Topic E. "Inventing Something Needed." You've probably seen some of the oddball inventions that manufacturers try to sell on television—a machine that scrambles an egg inside its shell, a tooth polisher for dogs. Work with a friend to invent something that the world needs—something wildly fantastic (like a computer that does all your homework) or genuinely useful (like a bicycle chain that doesn't catch your pant leg). Then write a letter to Mr. George

Practical, President, Universal General International Products, Inc., explaining why you think his company should develop your product. Or, pretend that the product has already been invented and write a television ad for it.

Writing and Learning

Prewriting and Writing

Each writing option implies a different kind of prewriting activity, and given the exandable nature of the unit, we will not discuss prewriting activities for each option. We strongly suggest that teachers prepare for the unit by stocking a supply of related reading on the whole issue of technology. The following list is a sample of possibilities:

> Otto Bettman, *The Good Old Days—They Were Terrible* (New York: Random House, 1974)
>
> Barry Commoner, *The Closing Circle: Native, Man, Technology* (New York: Alfred Knopf, 1971)
>
> Marjorie Henderson and Elizabeth Wilkinson, *Naturally Powered Old Time Toys* (Philadelphia: Lippincott, 1978)
>
> Marshall McLuhan, *The City as Classroom* (Agincourt, Ont.: Book Society of Canada, 1975)
>
> Victor Papanek, *Why Things Don't Work* (New York: Pantheon, 1977)
>
> Joseph Rosenbloom, *Kits and Plans* (Willits, Calif.: Oliver Press, 1973)
>
> Unicorn Press, *Access to Tools* (Greensboro, N.C.: Unicorn Press)
>
> Time-Life Books, *How Things Work in Your Home (and What to Do When They Don't)* (Alexandria, Va.: Time-Life Books, 1975).

A good way to initiate the unit is to ask students to consider the impact on humankind of some sort of technological device. For example:

> What would life be like without shoelaces? Where did shoelaces come from? Who invented them? What problems do shoelaces

create? Can you invent a better shoelace? Can you invent a better shoelace knot?

Help students see that even something relatively minor like the shoelace (or the cappable bottle or the common calculator) can have enormous impact on their lives. Then propose whichever array of writing options you have chosen.

As we have stressed throughout this book, success in content-area writing will come when students are filled with information and are ready to share it with their classmates. Thus it is important to provide ample time for the informal research and experimentation that the project requires. An ideal situation would be to have a science teacher, a social studies teacher, and an English teacher team-teach the unit. Each one would work on the appropriate part of the subject in her or his class: in science having students take things apart and experiment; in social studies having them consider impact; in English having them work on their presentation. More likely, most teachers will need to make provisions for all aspects of the project in their own class, whatever their subject.

Note, too, that several of the topics encourage oral presentations as a form of "composition." Although writing is the principal concern, it is important to realize that composing—the making of things in words—is much broader than mere pen and paper writing. A well-prepared talk or demonstration is excellent practice in language skills. Further, many kinds of writing are involved in an oral presentation, from notetaking to planning and blocking out the talk itself to marking captions and labels on audiovisual aids or charts.

Presentation

Again depending on the options chosen, this project can lead to some excellent public presentations, thus encouraging students to think about and write for real audiences from the very beginning. Some of these projects would make excellent entries for the youth talent contests and science fairs conducted by many schools and communities. Other possibilities include a school- or class-wide technology fair displaying and demonstrating all the projects over a period of a week or two, perhaps in conjunction with a school open house or PTA meeting; or displaying the projects in the lobby of a public building such as the city hall or a bank. When students know their work will be on display, they are willing to take unusual pains to make certain it is neat and correct and to avoid embarrassing errors.

Followup

Additional projects for students to pursue include the following:

- Study technological devices in science fiction books and stories or in futuristic television programs. What kinds of devices do they predict? Write a review giving your opinion of the accuracy of those predictions.
- Prepare a time capsule to be opened by students in the school 25 years hence. Include pictures and descriptions of the most recent technological devices and gadgets on sale in the stores. Write notes explaining to future students why these devices seemed so exciting in our time.
- Do some informal historical research into new technologies of an earlier decade, say, the 1950s or the 1930s. Consult old newspapers and magazines to see what kinds of mechanical marvels were being offered to the public. Then, pretend you were living at that time and prepare a time capsule similar to the one in the previous project, but writing for an audience that would open the capsule in the 1980s.

Part III

Applications and Extensions

SUMMARY OF PRINCIPLES

1. Keep content at the center of the writing process, addressing yourself to *what* the writing says, allowing *how it says it* to be treated incidentally.
2. Make certain students know their material before writing: content understanding shines through in student writing.
3. Design writing activities that help students structure and synthesize their knowledge, not merely regurgitate it.
4. Provide audiences for student writing, real or imaginary, so that students have a sense of writing for someone other than the teacher.
5. Look for writing activities that allow the student to play the roles of *learner* and *researcher*.
6. Teach the *process* of writing:
   a. Spend much time with prewriting, helping students acquire a solid grasp of the material.
   b. Provide assistance and support as students write, helping them solve problems as they arise, rather than waiting until they turn in the paper.
7. Let students revise one another's papers. Provide support through revision checklists and guidelines.
8. Don't confuse revising with copyediting:
   a. Teach revision first, having students clarify the content and substance of their work.
   b. Turn to copyediting of spelling, mechanics, usage, etc., only in the final phases of writing.
9. Display or otherwise publicize student writing through shows, demonstrations, book publishing (duplicated or one-of-a-kind), oral readings. Don't be the only reader of your students' work.
10. **Keep content at the center of the writing process.**

FINDING TOPICS

"What can I write about?" is students' perennial lament. The teacher's variation of that theme is, "What shall I have them write about?" That teacher concern helps explain the popularity of books that provide laundry lists of topics and ideas for youngsters' writing, inviting the teacher to pick a topic virtually at random for the next writing assignment. We prefer a more systematic approach to writing and content teaching and think that if students are to grow as both writers and learners, there has to be some rhyme and reason to the sequence of topics they study.

We have discovered that if teachers take the sort of interdisciplinary approach described in Parts I and II of this book, topics for writing and learning appear everywhere. Each day something happens at school or in the world at large that lends itself to content writing—"Wouldn't it be interesting to have students write about *that*?"

For the newcomer to writing in the content areas, the textbook—whether science, social studies, mathematics, or other subject—provides the logical place to start the search for topics. Each new chapter in the book provides a source of potential writing ideas.

In discussing textbooks, however, we need to mention one of our biases quickly: most of the reading, writing, and discussion topics supplied by commercial textbooks are poorly designed. Textbook writers violate most of the principles of content-area teaching we have described. Too often the topics stress memorization and regurgitation; they seldom build in any provision for an audience; too often they lead to "homework writing" that is boring to write and read.

Some of those topics can be salvaged, however, by simply applying good content-writing principles. For example, a science book presents the following as a "study assignment":

> Write a report on the ingredients contained in a number of common household products and how they work.

Such an assignment invites bad writing because it seems aimless, without focus, and lacking in audience. We would rewrite it something like this:

> Make a search of the cleaning cabinet around your home or apartment—the place where all the cleaning supplies are kept. Choose two or three products that are used

around your home regularly—detergent, rug shampoo, floor wax—and copy the ingredients from the label. Then, based on your study in this unit, write a paragraph or two about each product, explaining to your parents (or whoever uses the products) just why they work as they do.

Another assignment in the same book reads simply:

Write a report on the life of Niels Bohr.

Instead, the teacher can say:

I've brought in a number of biographies of famous scientists (including Niels Bohr). I'd like you to read one of them and then do some writing about the person's life. Don't just summarize what the person did; instead choose an important moment in that person's life and write a dramatic scene (or short story) about it. We'll act them out (or read them aloud) to the class.

Thus a number of textbook concepts can be covered through interdisciplinary writing. Further, teachers will find that if they adapt textbook topics in this way, their students will learn the material more successfully than they have in the past.

Curriculum guides, although little more than listings of fundamental concepts to be covered at each grade level, can often supply ideas for content-area writing. To convert one of these concepts to writing ideas, look for "the literacy connection" and ask yourself, "How can that concept best be expressed through writing?" Then return to Part I of this publication, "A Primer on Teaching Writing in the Content Areas," and develop the concept as a writing topic.

The daily newspaper is filled with potential ideas for content-area writing. While browsing through the paper, teachers can often find news stories that are immediately relevant to their planned content teaching for the day. The news stories, in turn, can lead to writing that ranges in complexity from a simple journal response to daily events to a full-scale inquiry-centered unit on a key issue or topic of the day.

Similarly, newsmagazines can provide a wealth of ideas for content-area writing. The science or education or medicine or world events sections of such periodicals will probably not only contain ideas for writing, but some prewriting resources as well.

Other popular magazines can provide a starting point for writing

in the content areas. English teachers discovered years ago that by talking to the local paperback/magazine distributor, they could often arrange to have out-of-date magazines supplied to their classes at no cost. Other teachers can probably arrange to receive magazines from *Ranger Rick's Nature Magazine* to *Popular Photography* in their classrooms at more or less regular intervals. These specialized magazines, in turn, can trigger the development of interdisciplinary writing lessons and units.

Learn to look for the real-world connection between what you are teaching (and what students might write about) and events in the school neighborhood, the community, and the state. Issues and concerns of day-to-day living have a tendency *not* to be easily classifiable by discipline. Therefore study of an issue such as ecology, or town planning, or the water supply will naturally cut across many disciplines in the humanities, sciences, and vocational fields. And writing, in turn, underlies all of these areas.

James Beck, a teacher at the University of Wisconsin, Whitewater, has his college students systematically look at how different disciplines view common issues and problems, forcing them to take an interdisciplinary perspective.[2] We tried this same idea with a group of Michigan teachers, exploring the topic of The Elderly from as many different points of view and from as many different interdisciplinary perspectives as possible. We reprint their list *in toto* just to show how exhaustive such a list can be and how easy it is to develop one.

THE ELDERLY

Science

- How old do various animals live to be? Which animal has the longest lifespan? Which one has the briefest lifespan? Prepare a chart or display showing these relative lifespans.
- What happens to cells when they grow old? Why don't we continue to grow new cells forever? Read about the aging of cells or conduct experiments and present your findings.
- Do you share any of your grandparents' personality or physical traits? Interview your parents and study family photographs to discover resemblances. How do these come about? Prepare a photo-display to prove your points.

■ Read about or interview a doctor on lifelong eating habits. What does your eating style determine about the length of your life?

■ Explore cryogenics and the possibility of freezing sick people and reviving them later when cures for their diseases are known. Present your findings in a report or possibly a realistic science fiction story.

Mathematics

■ How many people are alive on planet earth now? How old are they? Design a world map showing population centers and the approximate percentages of people in various age brackets.

■ Trace the increasing average life expectancy in the United States from colonial times to the present. Prepare a display or a talk showing what has happened. What does science/mathematics project to be the average lifespan 50 or 100 years from now?

■ Formulate a year's budget for a person over 65 taking into account social security benefits. How difficult is it for an elderly person to get along financially in retirement?

■ Explore the statistics on food production in the world today. Where does the world's food come from? Who consumes the most food? Who eats the least amount? Prepare the copy for a television or radio program that explores some of the problems of world hunger.

Art and Music

■ Study the photographs of the elderly in *The Family of Man*. What did the camera "see" in these people? Translate your impressions into words.

■ Read the biographies and autobiographies of artists who were still creating late in life: Picasso, Casals, Toscanini, O'Keeffe, Nevelson. What kept them going? Prepare a class presentation on some of these artists.

■ Study the ways in which the elderly are portrayed in paintings. What clues does a painter provide to show that a person is old? Then make some photographs of older people. Are the artists correct?

Social Science

■ Prepare a report on the various social care programs for the elderly: social security, medicare, medicaid, retirement plans. Write a position paper or editorial on the subject.

■ Investigate how different countries and cultures take care of the elderly. Then prepare an evaluation of such care in the United States.

■ Write an imaginary scene between a person who is about to enter a home for the elderly and his or her son or daughter. How does the elderly person feel? How does the "child" feel?

■ Find out if there is an adopt-a-grandparent program in your community and begin corresponding with a person in a home for the elderly.

History/Social Studies

■ Research the American Indian treatment of their elderly and write a monograph or report for the class.

■ Visit a home for the elderly and conduct a series of interviews with residents about what life was like during their youth. Use this information to compile a study of a period in twentieth century U.S. history.

■ Put yourself in the role of a person who lived in an earlier era and have him or her visit our society today. What would, say, Eleanor or Franklin Roosevelt think about the modern-day United States? What would George Washington think? Present this as a dramatic monologue for the class.

■ Locate an elderly person who is practicing a dying art or craft. Ask the person to teach you the basics of the craft, and use the ideas in an article, perhaps with photographs.

Civics

■ Research the history of the Gray Panthers, a group of advocates for the elderly, and describe their plans and programs.

■ Invite your local state representative to speak to the class describing current legislative proposals concerning the elderly. Write questions for the legislator to answer, and after the program, write letters to him or her describing your position on the proposed laws.

■ Research the laws and regulations concerning the establishment of homes for the elderly. What kinds of permits and credentials are required? Analyze these requirements. How do these rules and regulations protect the elderly?

■ Try to find out why U.S. senators are frequently elderly men, older than obligatory retirement age for most people. Are these men wiser than the rest of the population? (Similarly, study the age of various U.S. presidents. Can an elderly person be a successful ruler of a country?)

■ Do you think the elderly should have a right to die when they wish? Study the question and write a pro and con discussion, airing both sides of the issue. Then describe your own position. (Or study the subject of *euthanasia*, mercy killing, and write a similar paper.)

Vocational/Career Education

■ Learn about careers for the elderly and write a guidebook that would be helpful to an older person, about to retire, in finding something interesting and worthwhile to do.

■ Look into careers that involve the elderly: being a gerontologist (doctor for the elderly), running a community recreation center, and so forth. Prepare a display showing these career choices and giving their qualifications.

■ Interview an elderly person, perhaps one of your grandparents, on his/her feelings about working and a career. How do people feel about various kinds of work after spending a lifetime in such activity?

■ What is "lifelong education"? Where does one get it? What is important about it? Can you see yourself being involved in lifelong education after you have finished school or college?

Other Subjects and Disciplines

■ *Athletics.* Write a booklet describing various sports and other athletic activities that the elderly can enjoy.

■ *Technology.* Study *bionics*, the science of "mechanical" replacement parts for the body, and write a description of how this may affect aging during your lifetime.

■ *Futurism.* Consider the effects of research into DNA and the possible production of antibodies to protect the aged from diseases.

■ *Religion.* What do some elderly people you have interviewed believe about life after death? How have their attitudes changed as they have grown older?

The list can go on and on. Depending on the makeup of the class, a selected half-dozen or more of these topics can create a solid unit lasting several weeks. A broader selection can yield interesting activities stretching over a month or more.

But for those who would like additional suggestions for topics, one more list follows.

MORE IDEAS FOR CONTENT-WRITING PROJECTS IN MIDDLE SCHOOL/JUNIOR HIGH

Mirrors: Real and in Your Mind
Gymnastics
The Worst Thing
Immigrants
Superstitions
The Automobile
Close Calls
Exercise
Counterfeits
Comebacks
Gliders and Sailplanes
People at the Dawn of History
Money
The First 12 Months of Life
The Call of the Wild
Baseball
Unidentified Flying Objects
My Turf
History of the Movies
Pioneers
Noise Pollution
Names, First and Last
Setting Records
How to Do It
Earth-Shaking Discoveries
Being Number One
Running
Alien Beings
Gold
Codes and Ciphers
Smoke
Hazardous Wastes
Time
Electromagnetism
Water
Oil
Air
Frontiers
Magic
Poltergeists and Spirits
National and State Parks
Crossroads
Sleuthing
Television
Fast Foods
The Melting Pot
Survival of the Fittest
How Not to Do It

EVALUATION AND GRADING OF CONTENT WRITING

We have stressed the value of peer revision as an essential part of the writing process (see Part I). Although this helps dramatically reduce the theme-correcting burden, the fact remains that most teachers feel a need to make some comments, either written or oral, about student papers. As noted elsewhere, we suggest focusing the comments on *content*, stressing "writing" only as it affects the clear

presentation of that content. These comments, then, should include such considerations as whether or not the paper successfully communicates the basic ideas, adequately defines terms, and is easily understandable to the proposed audience. Most research in writing suggests that at this stage, praise is far more helpful than criticism, and the most useful comments are those that not only point out things well done, but explain to the student *why* they were well done.

Grading is one form of evaluation that teachers must also deal with. It may be tempting for the teacher interested in writing in the content areas to give a double grade: one for content and one for writing quality. We recommend against this practice—although acknowledging its popularity among teachers—because it creates an unnecessary schism between writing and content. Instead, we suggest that the teacher apply content criteria—Are the facts right? Are the observations sound? Is the message accurate?—and focus on writing only as it enhances or detracts from the content. Thus the teacher can lavish hign praise (and a good grade) on a paper that not only presents sound information, but does so articulately and even artistically. Likewise, if a paper is sloppily revised and carelessly spelled, the author should know that poor writing interfered with comprehension and resulted in a lower grade.

Grading should be relatively easy and painless if an assignment has been carefully designed and explained to students. In the course of prewriting, students will discuss what it is they are expected to include in their papers and the audience for their writing. The time spent on prewriting, then, is actually the beginning of the evaluation process. Further, if the teacher monitors their progress throughout the drafting, revising, and copyediting stages, students will have received considerable advice informally. The final grades in such assignments should therefore come as no great surprise to anyone.

An even better approach is to place writing on a pass/fail or credit/no credit basis. This eliminates pressure about grades and allows both student and teacher to concentrate on the quality of the writing and the content material. In a P/F or Cr/NCr system, minimum standards must be clearly articulated, and students must know that the teacher will not automatically accept any piece of writing they submit. In our experience with these systems, we have always used "best effort" as a measure: if students feel they have given their best work, and if we, as teachers, intuitively feel they have, then we accept a paper.

In a related kind of grading, the contract system, papers are similarly given credit/no credit, with the total number of papers submitted as a guide to the final grade. Despite an inherent weakness

of emphasizing quantity over quality, the contract system works well if standards and criteria of evaluation are stated clearly.

It is crucial for teachers of writing in the content areas to recall that *grading* is not the same as *evaluation*. Although we believe the impact of grades on student writing should be minimized (or eliminated if possible), this is not to say that student writing should not be evaluated. Much of the evaluation should come through the peer group revising and copyediting sessions—where young writers get a real sense of how their writing affects real readers. But the teacher obviously must enter into the evaluation process, too. Sometimes this can be done through written comments on papers, which is time-consuming. Another method is the miniconference conducted on the spot—a minute or two spent in class discussing a part or all of a paper. Evaluation also comes when students submit their writing to public scrutiny by publication or display or oral reading to a group of peers or adults. It is unfortunate that grades too often substitute for these more substantial forms of evaluation.

Traditionally, writing evaluation has given most emphasis to mistakes and errors in content, mechanics, and usage. It is important to emphasize that students learn both writing and subject matter best when they *succeed* at what they have set out to do and when someone helps them understand why they have succeeded. Thus, in responding to and evaluating student writing, be lavish with praise for things well done rather than despairing of students' writing failures. Itemizing every fault on a student paper seldom produces positive growth and can be destructive of morale and self-confidence. This is not to imply that one should spare the rod and spoil the child. If a paper fails to communicate successfully, a student ought to know it. But, to use another cliche', nothing succeeds like success.

In the end, the best evidence of the success of a student's writing (or the success of a writing program) is in the writing itself. We strongly recommend that teachers initiate a *portfolio system* for maintaining copies of student writing (including notes and drafts, if they are of interest to the teacher). Such portfolios, carefully maintained for a semester or a year, provide evidence of student growth, in content mastery as well as in writing. Further, portfolios can provide useful material for discussion with parents and for conferences with individual students. A portfolio is better than an individual paper for diagnosing a student's writing problems and seeking solutions. And it can be handed along to teachers at the next grade level to provide some continuity of both content and writing instruction from one year to the next.

Some schools and districts may be interested in creating evalua-

tion programs for all their students; in this age of accountability, a number of such systems have been developed. Usually they involve collecting writing samples on a pre- and post-test basis, after which teachers work in teams either to assess the writing *holistically* (making impressionistic judgments about such qualities as form, structure, style, and correctness), or to evaluate *primary traits* (searching for particular characteristics of good writing). Faculties engaging in such programs often report a greatly increased awareness of the importance of writing and of the strengths and weaknesses of their students' writing. For a detailed description of these approaches to schoolwide evaluation, as well as practical teaching pointers on the whole question of theme grading and evaluation, see Maxwell and Judy.[11]

EXAMINATIONS IN THE CONTENT AREAS: WRITING THEM/PREPARING STUDENTS FOR THEM

Most of the projects suggested thus far can be considered medium to long-range. They require a minimum of two to three days to complete, and often will extend over a period of several weeks or even a month. We want to reemphasize the principle that teaching content through writing does require *time*; one cannot simply ask students to dash off a piece of writing and expect that they will produce quality material.

However, there are occasions in school and in life when students are asked to produce writing on short notice, frequently under constraints of time and length. In both school and life these occasions fall under the rubric of "examinations," formal and informal, and they have certain common traits:

- The assignment is often highly specific.
- The writer needs to prove him/herself to an audience, demonstrating mastery of the topic.
- Although the writer may have had time to prepare the subject-matter knowledge required, there is little time for careful prewriting planning (and there may be little time for revision as well).

Examples of such occasions are as follows:

> Students: Please discuss current theories of the origin of life and describe the evidence to support each.

All Teachers: Send a description of your efforts to improve writing in your classes to Principal Conklin by noon Friday, making certain that you show how you have met the district-wide list of minimum skills.

Jenkins: Write a report for me on the Harrison trust and be quick about it.

It is important for middle/junior high and senior high school teachers to help their students prepare to write under such "fire-drill" conditions," for writing examinations is crucial to academic success and to success beyond schooling. At the same time, many examinations and examination situations are detrimental to good writing instruction; if not handled carefully, they can actually destroy the positive effects of a writing in the content areas program. Too many merely call for regurgitation of factual information or ask students to answer impossibly complex questions in short periods. Under pressure, students wilt: their natural writing voice disappears; they turn to murky phrases to cover their feelings of unpreparedness. In short, they produce the sort of writing that makes teachers turn to multiple-choice tests as a comprehensible alternative to essay writing.

It is possible, however, to design essay examinations in the content areas that make it easier for students to produce good writing. This is not to suggest that the examination itself should be made simpler (although in some instances, examinations that are meant to "challenge" students merely baffle them). But it makes sense for the teacher—content area or language arts—to try to create a situation where students produce their *best* writing, not their worst, and where they display their content knowledge as fully and clearly as they are able. The advice and precepts that follow contain the fundamental principles of content-area writing discussed in previous sections. In preparing written examinations, then, the teacher merely needs to recall the principles of good writing instruction and apply them as much as possible to the somewhat limited writing situation of the examination.

For instance, in designing a content examination, *consider the possibility that students can write in different discourse modes.* There is no reason to require students to display their knowledge only in expository prose such as an essay. Why not have general science students write a *dialogue* between an astronomer and a lay person to display their knowledge? Or have mathematics students write their own *story problem* and then solve it to demonstrate mastery of a concept? Or have history students compose an *on-the-*

scene report of the Battle of Britain or the Siege of Troy? Or have literature students compose an *interview with an author* instead of writing the usual literary analysis of the author's works?

Adding such a creative twist to examinations is more than a matter of novelty. In most cases, offering a specific discourse mode or writing possibility helps the teacher build *audience* and *purpose.* Instead of writing for the teacher just to display knowledge gleaned from a course, the student focuses that knowledge in a specific language form and writes for an audience, even though the audience may well be imaginary. Such examination topics invariably increase the amount of student involvement in writing, with observable improvement in clarity, organization, and voice. (Try a simple experiment: Give one class the usual essay assignment and another class a topic with a different discourse mode, with audience and purpose built in. Compare the writing quality.)

Further, to increase the probability that students will "make contact" with an essay question, include several options. Almost any content knowledge can be expressed clearly and fully in different ways. Although a student *might* write an on-the-scene report about Troy, he or she could also write about it in the form of a *letter* (either as a Greek or a Trojan, or as an exchange of letters between leaders of the two forces). The examination question might also be answered in the form of a *scenario* for a television or film documentary or even as a *fictionalized story* about life within the walls of Troy.

In other words, *examinations should encourage synthesis rather than recitation*; the value of an essay examination should be to allow students to discover their knowledge about a topic, not just to display it. It is equally important for the teacher to state clearly and articulately the expectations for the writing and what students need to do to complete it successfully. We prefer to put examinations on a pass/fail basis, telling our students how we will determine a passing examination. When grading is used—either out of personal preference or school-dictated necessity—it is also important to articulate clearly and precisely how the grade will be determined. Whether pass/fail or graded, any examination we write includes the criterion of *clear writing*; we make it plain to students that the examination is a "test" of their writing, not just of their knowledge. Nor do we find that the emphasis on writing quality distracts students from content; since the content and its expression are inseparable, the focus on writing also helps students clarify their content knowledge.

Finally, we think it important for the teacher to *build the steps of the writing process* into the examination. Of course, in a fifty-minute or even an hour-and-a-half examination, the process must be

severely condensed, but the teacher should nevertheless make provision for *prewriting, writing,* and *revision.* This can be done as part of the written instructions or through a brief oral presentation at the beginning of the examination.

However, there may be many times in school when students take examinations under less-than-ideal conditions, when the teacher does not build in audience or purpose or options. In such instances, the task is clear: students should write about what they know and write clearly.

To this end, we suggest that our students apply what they know about the writing process to the examination, however brief it may be, not allowing a great deal of time for planning. We tell them to split the available time into three portions: a brief time for prewriting, a longer time for writing, and a short time for revision and copyediting. Then we give them the following list of strategies:

Prewriting

1. Make certain to read the examination question carefully. Know exactly what is being asked of you. Underline the key words and phrases in the assignment to remind yourself of what you must do.
2. If options are presented, think about the choices of topics or approaches that will best enable you to display what you know. (Also, if you think you would *enjoy* writing one option more than another, choose it, because your writing will probably be more natural.)
3. Write down the audience for this paper. For whom are you writing? What are you trying to show that person? Try to visualize your audience in your mind.
4. Take time—maybe only five minutes—to jot down some notes and plans for yourself. Don't just start writing the first thing that comes into your head.
5. Look for an angle or plan of attack on your topic, some way to get into it that lets you write from your own perspective.
6. Let your knowledge of the topic structure your paper. You know the material. Think about what you know, how you want to write about it, and the audience for whom you are writing. In that way, you'll discover your angle or organization.

Writing

1. Take time, but not too much time. Write fairly rapidly, but don't let panic or nervousness make you write too quickly.

2. If you get stuck, keep on going. Don't waste time worrying about how to get around a writing block. Just move to the next item in your notes and come back to patch up the stuck place later.
3. Don't worry too much about "correctness," but be certain to leave yourself time to check your work later. If you get stuck trying to spell a word, choose another word with the same meaning that you *can* spell.
4. Once or twice as you write, look back at the examination question to make certain you are answering it and haven't drifted away from your purpose.
5. Once or twice as you write, look back at the audience you have chosen for the paper and visualize your reader(s) again.

Revision

1. At all costs, leave time for revision, even if it's only five minutes. People write strange things under the pressure of examinations, and they need to go back over their writing.
2. Ask yourself if you have answered the question. If not, look for places to insert a few lines to improve your answer.
3. Ask yourself whether any places sound awkward. (A good way to do this is to read the examination silently, mouthing the words.)
4. With two minutes or more to go, look over the paper with spelling, punctuation, and usage in mind. Correct anything obviously wrong or change it to something that seems right.

CONTENT WRITING ACROSS THE CURRICULUM

There are, it seems to us, few limits to what can be accomplished by a single classroom teacher pursuing a content-area writing program for part or all of a school year. But it is self-evident that if students are to see writing as something valuable in all their schoolwork (and in later life), they must encounter interdisciplinary writing regularly, from kindergarten through twelfth grade. They must use writing as a tool for discovery and expression in all their subjects and come to understand or intuit its usefulness in any learning situation. With this in mind, a number of schools and districts in the United Kingdom, Canada, and the United States have begun developing something generally titled "A Policy of Writing Across the Curriculum." Evolved through faculty meetings and workshops as well as through

in-service sessions, such policy statements outline each teacher's responsibility for developing writing skills. (Most statements are, in fact, broader than writing and include reading in the content areas as well. However, this discussion, will be limited to writing.)

We will not attempt to outline such a policy in this publication, because any statement must be hammered out and agreed upon by the people who will implement it. That task is not easy, for by no means do all teachers share the assumption that writing (and reading) must be a schoolwide concern. A statement, then, must take into consideration the concerns of teachers who feel they cannot teach writing successfully or who dismiss it as the responsibility of someone else—next year's or last year's teacher. Nor can the expectations in a policy statement be perceived as unreasonable by the cooperating teachers. Although it is quite practical for youngsters to do a bit of content writing in every class every day, to suggest it as a quota or even as a desirable goal may result in protests and the breakup of a writing-across-the-curriculum discussion.

Nevertheless, we do want to provide teachers with a model for a writing curriculum policy statement and then suggest how a school or district can go about implementing one.

Often at the secondary level the need for a writing across the curriculum policy will be identified by the English department (quite possibly with the support of the principal), and the first job becomes that of convincing teachers in other disciplines of the need for such a policy. At this point, the latter group needs to be reassured that English teachers are not simply passing the buck, shucking off their responsibility for teaching writing, and that the teaching of writing in the content areas need not be a horrendous additional burden. We suggest that the English department first make sure its own house is in order. (Is writing, in general, being taught well?) One way to start is to set an example by developing a policy for department members such as the following:

- That English teachers broaden their scope to include at least one (two/three) content-area writing project(s) each semester, thus demonstrating that the English faculty cares about student writing in other subjects.
- That English teachers see themselves as responsible for teaching the broad skills of written literacy—fluency, articulateness, a sense of purpose, a sense of audience—through frequent writing practice, both in the content areas and in connection with English/language arts subject matter. (Going a step further, the English department might set minimum levels of writing for its students—at a minimum,

perhaps five or six carefully developed compositions each semester; ideally, something closer to the theme-a-week model proposed by Conant two decades ago.)

- That English teachers use informal writing daily in their classes to reinforce and develop writing skills and to convey the idea that writing is an important tool for everyday use.
- That English teachers continue to foster the idea, developed in the grades, that writing can and should be done in many diverse modes, imaginative as well as expository.
- That English teachers learn about the content-area writing demands their students face in order to know accurately what their students are expected to do in other classes.
- That English teachers teach students about the nature of the English language, especially dialects and usage, so that students are well informed about the facts of English usage and have a sense of how to take responsibility for the correctness of their own work.
- That English teachers evaluate writing in terms of its content and substance, not just the quality of its language.
- That the English department take responsibility for creating file folders of students' best writing as a way of promoting articulation among grade levels.

With such an English model before them, the subject teachers, in consultation with the English teachers, might develop some policy statements such as the following:

- That subject teachers assign at least one (two/three/more) good, solid content-writing project(s) each semester.
- That subject teachers cultivate the use of informal writing on a regular basis by having students keep journals, diaries, notebooks, logs, etc.
- That subject teachers build writing excellence into criteria for evaluation in their courses.
- That subject teachers take responsibility for clearly stating the specific conventions of writing in their disciplines so that students know exactly what they must do to write successfully for a specific teacher of a particular subject.
- That subject teachers evaluate writing principally in terms of content but with genuine concern for quality as well.
- That subject teachers teach "correctness" only as student errors genuinely interfere with communication and/or as they feel moved to take on this matter.
- That subject teachers supply the English faculty with one piece of writing for each course indicative of the student's best writing.

In the end, no writing-across-the-curriculum policy statement will reflect a perfect or total consensus. Some teachers may regard the whole enterprise as a waste of time and refuse to participate; others may file away the policy statement and ignore it. But it has been our experience that schools willing to make the effort to develop the policy often find the writing program improved dramatically. Most faculty members will make an effort to adhere to the policy and to make it work. The amount of writing done in a school will quadruple, at least, and students in all classes will become more excited about and involved with their written work.

Some other suggestions for launching a writing-across-the-curriculum policy:

- Include parents in the planning, letting them express their concerns about the quality of their children's writing. Also invite parents to participate in the literacy program, especially by serving as tutors or even as volunteer theme readers.
- Start a pool of lesson plans and teaching ideas in the content areas as a catalyst for reluctant or cautious teachers.
- Treat writing as a focus for in-service training for a year. Bring in writing consultants from a university or another school district and have them work on a long-range basis, helping develop the program, not simply making one-time presentations and departing.
- Issue press releases on the concern for literacy to notify the community of the school's commitment.
- Set up an annual school writing awards program.
- Create a buddy system in which good writing teachers help subject teachers plan writing activities and consider ways and means of developing good lessons. (In exchange, subject teachers can help language arts teachers locate good subject matter materials for use in the English content-area writing program.)
- Conduct an annual school- or systemwide writing week, in which students in all classes, elementary as well as secondary, focus on a common theme through writing. Present this writing and project work at a school- or districtwide writing fair. Invite parents and the media—they will love it.

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