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ABSTRACT

The seven chapters of this final report provide a discussion of a study detailing the instructional situations within which students are learning to write. Data reported from the study include a national survey of teaching practices and many classroom observations in ninth and eleventh grade content area classrooms (English, mathematics, foreign language, science, social science, and business education). Following the first two chapters, which offer an overview of the study and its design, results from the various parts of the study are woven together in three chapters focusing on the major research topics: the types of writing students are asked to do, teachers' purposes in making these assignments, and the interaction of purposes with the writing instruction provided. The sixth chapter brings the major findings together, highlighting the results in outline form. The final chapter places the results in the context of the more general question of what is needed to improve writing instruction in the secondary school. In service of the same goal, an appendix provides a bibliography of materials that offer practical, classroom-oriented suggestions for incorporating writing into a variety of different subject areas. Other appendixes provide further details about results and instrumentation. (RL)

A Study of Writing in the Secondary School

Final Report
NIE-G-79-0174

September 1980

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No study of schooling can be successful without the cooperation of teachers and students. We were unusually fortunate in the cooperation, sometimes even enthusiasm, with which we were greeted in the two schools which participated in the observational studies, allowing us to visit classrooms throughout a full academic year. Thanks must also go to the teachers in the national sample, who took the time to complete our questionnaires and occasionally to write us lengthy letters about their teaching practices.

The success of observational studies depends upon the accuracy and perception of the observers. Fran Lehr and Anne Auten carried the brunt of the observational work, and their sense of the dynamics of the classroom was essential to the success of the project.

A preliminary draft of the final report was given a detailed critique by Arthur Lehr, Champaign (Illinois) Public Schools, Robert Gundlach, Northwestern University, and Judith Langer, East Meadow (New York) Public Schools. Their comments and suggestions had a detachment of which we were no longer capable, and led to substantial changes in the presentation of results.

Finally, Kim Black, project secretary, organized us all so quietly and efficiently that we hardly noticed how complicated a task we had undertaken.

Arthur N. Applebee
Stanford University, September 1980

Chapter One

Introduction

The last several years have seen an increased interest in the writing process and in the teaching of writing. Prompted in part by public concern about the state of the nation's literacy, the new interest is apparent in the College Entrance Examination Board's restoration of a writing sample to its examinations, in the inclusion of composition as an area eligible for funding in the 1978 amendments to the Elementary and Secondary Education Act, and in the increased funding of projects to investigate writing and writing instruction through the National Institute of Education.

This public concern with writing skills has coincided with new insights into the linguistic and psychological processes involved in writing--insights drawn from a range of disciplines using a variety of research techniques.

Case studies have become especially popular, sparked largely by Emig's (1971) analysis of the writing processes of twelfth grade students and Graves' (1973) work in elementary school classrooms. But we have also had rigorous experimental studies (e.g., Bereiter and Scardamelia, in press), detailed ethnographic research (Florio, 1978), and large-scale assessments of students' ability to respond to particular writing tasks (NAEP, 1975, 1976, 1977a, 1977b). In a different tradition, linguists and rhetoricians have developed new approaches to the study of texts, moving beyond the sentence level toward descriptions of the structures underlying a text as a whole (e.g., Kinneavy, 1971; Halliday and Hasan, 1976) and psychologists have begun to study prepositional structures in their relationship to comprehension (e.g., Freedle, 1979).

Most of this recent work grows out of highly specialized contexts, defined either by the constraints of a particular academic discipline or by the dynamics of a particular set of classrooms and teachers who have become excited about writing and who have the advantage of continuing interaction with an equally enthusiastic researcher. Ultimately, the findings of such research will have to be integrated with our knowledge of the conditions under which writing is usually taught; we will have to work our way out of the specialized contexts toward an understanding of what would be most feasible and most fruitful in classrooms in general.

It is at this point of relating new research to current practice that the process is in danger of breaking down, for in spite of a general discontent with the results of writing instruction very little is known about the writing that school children do. Are they writing at all? Are the tasks appropriate and productive? Does writing instruction vary from teacher to teacher and subject to subject? Do variations in instruction in fact matter? If so, in what ways?

The present study, growing out of such questions, seeks to portray in some detail the instructional situations within which students are presently learning to write. Data of a variety of sorts were gathered in order to describe as fully as possible 1) the nature of the writing tasks currently being asked of secondary school students, 2) teachers' purposes and techniques in making writing assignments; and 3) the extent to which the characteristics of student writing vary with subject area, grade level, and instructional goals.

In its approach to these questions, the present study is itself embedded with a larger research tradition that begins in the acknowledgement that whatever else writing may be, it remains a language process. As such, much that we have learned about language in general remains relevant in our discussion of learning to write, providing us with powerful frames of reference to sort out what we know, to help relate isolated facts, and to reveal where the significant gaps in our knowledge lie.

To take one example, it has become a cliche to assert, "writing is difficult." Yet if we examine this assertion at all carefully, it is clear that there is nothing about writing itself that is difficult. Even young children just learning to write find very little that is difficult about it. They write, typically, with great pleasure, and they write everywhere: floors, walls, and table tops are just as likely as their writing tables to hear the brunt of their excursions into written language. It is only in certain specialized contexts that writing becomes difficult for them, as when they are asked to write for their teacher, clearly and between the lines. Not writing itself, but writing to meet the demands of a particular task, complicates the process.

This is also true at other levels on the developmental scale. The adolescent who finds it almost impossible to write a history report will compose effortless notes to pass to classmates when the teacher's back is turned. The scholar who labors endlessly over a particular chapter will seize the chance to write a lengthy letter to a friend about how the manuscript is developing. Again, it is the nature of the writing task, not writing itself, that complicates the process.

The argument is more complex, however, than the simple assertion that particular uses of language (and hence of writing as a form of language) are difficult and others are not. Writing is distinguishable in certain formal ways from spoken language, particularly in providing a permanent record that can be reflected upon, edited, and preserved. These formal differences provide in fact new language resources which are not readily available in spoken contexts. These resources have led in turn to the development of new ways of using language which exist almost exclusively in writing, and which are embedded within certain highly specialized social and academic disciplines. It is from these new and specialized tasks--which demand what David Olson (1977) has called "essayist technique"--that we derive the belief that "writing" is difficult, forgetting that there are many other uses of writing which do not seem to be difficult at all.

DESCRIBING WRITING

Discussions of the "difficulty" of writing go astray when they neglect to treat writing as language with a variety of possible uses. "Use" in fact turns out to be an equally critical factor in just about any other aspect of writing one cares to examine, from testing and evaluation to modelling the composing process to comparing teaching techniques. Thus in a study of school writing it becomes important to have a coherent approach to discussing and distinguishing among the universes of possible uses of language in general and of writing in particular. There are a variety of perspectives that can be taken in examining uses of language, but two that are particularly helpful and complementary are those of Michael Halliday

and James Britton. Basically, Halliday provides a way to conceptualize the conventions of particular genres, while Britton offers a framework for examining across-genre similarities in language tasks.

Halliday's (1977; and Hasan, 1976) discussions of the uses of language focus attention on language at the level of text, where text is a general term for a semantic structure formed out of a continuous process of choice among interrelated sets of semantic options, in speech or writing. The importance of text as a formal construct is that it moves us immediately beyond the level of the individual sentence, and asks us to examine the characteristics of larger stretches of discourse. This has a number of aspects. One relates to formal characteristics of a text, ways of beginning and ending, for example, as well as the sorts of differences that emerge if you compare the Modern Language Association Style Sheet with the American Psychological Association Handbook for Authors. Some of these differences are relatively trivial, related mostly to fine tuning a manuscript. Other text differences, however, provide crucial signals about the sort of task that is being undertaken, conventional markers which we do not notice simply because they work so well. An author of a scientific paper cannot begin, "Once upon a time," any more than an editorial writer can indulge in a formal review of related literature.

Another aspect of text is related to the mode of organization of meaning--that is, the way the parts of the text relate to one another. This has a number of aspects, including such features as cohesion, propositional structure, and narrative sequence. As

scholars have turned to it [illegible]
become increasingly clear that [illegible]
text involves [illegible]
make explicit, and what [illegible]
pervasive, from prominent [illegible]
procedures can simply be cited [illegible]
detail in a scholarly report. Halliday [illegible]
register to deal with [illegible]
a particular configuration of [illegible]
particular context of use. Decisions about [illegible]
choose become ones about the appropriate [illegible] in writing.
language of the "paradigms" Thomas Kuhn [illegible]
foundation of particular fields of scientific inquiry. [illegible]
provide tacit guidelines about proper lines of evidence and [illegible]
of arguments. Though rarely made explicit, their influence [illegible]
vasive; they determine what will be seen as interesting, what [illegible]
vious, and what as needing elaboration. When we move beyond remedial
or "basic" English, problems in managing this aspect of text [illegible] the
cause of much that we call poor writing.

Doctoral dissertations provide a familiar example of such problems. Typically, the candidate reaches the dissertation stage with an overwhelming array of new information, new ideas, new terminology--and with great excitement about it all. What is most often lacking is a sense of what is significant and what is trivial. The manuscript that results often verges on incoherence, with important findings swamped by details of interest only to the student who has just discovered them. We get long explanations of standard

[illegible] starting point has been James Britton's [illegible] analyses of school writing in a variety of [illegible] British secondary schools. He has described two [illegible] of these tasks in some detail: one relates to the [illegible] the writing, and the other to the function of the [illegible], where function is used in the sense of the conventional purpose the text is designed to accomplish (e.g., tell a story, report [illegible], persuade, or theorize).

[illegible] level, Britton's analysis of audience is a traditional one, tailored to fit the specific audiences that students encounter in the course of their school work. Categories he has investigated [illegible] with "child to self," range through specialized school categories such as "pupil to examiner," and end in "writers to their [illegible] readers." As might be expected, virtually all of the writing which Britton and his colleagues (1975) collected from British schools was addressed to the teacher, and the greater proportion was addressed to the teacher in the role of examiner.

In the present study, we began by looking at both the actual audience for student writing, and the purported audience in the "write a letter to the mayor" type of assignment. Even with this distinction, it is difficult to do much that is interesting with audience in an observational study because there is little variability: virtually all of the writing that is done is really done for the teacher. Compared with writing in out-of-school contexts, this is a very atypical audience: on most assigned topics, the teacher not only knows more about the topic than does the student writer, but wants the student to repeat

what has already been said. In this context, teachers may be tempted to treat unclear prose gently, supplying missing information and reading for what the student "meant to say." Something of this sort probably happens with the doctoral dissertations discussed earlier; they pass easily through dissertation committees who know what the candidate "meant to say," but not through publishers' review boards, who concentrate on what the manuscript actually says. Douglas Barnes (1976) has commented on the lack of demand inherent in writing for someone who understands in advance, arguing that speakers and writers order their thoughts more carefully when addressing uninformed audiences than when addressing well-informed ones. This is similar to the claim in Britton's work that when audiences other than the teacher existed--or were created through the intervention of the project team--both involvement with the writing task and the quality of the writing that resulted improved noticeably (see Martin et al., 1976).

It is here that this approach to audience parts company with the traditional concern with matching what you say to what you know about your reader, and becomes part of a more general (and more interesting) argument about the way in which we learn language. Briefly stated, the argument is that language is learned most naturally and most effectively through use, and that the most significant uses are driven by intention to communicate. When we create writing situations with atypical audiences, we destroy the normal intention to communicate, and thus undermine in fundamental ways the whole learning process.

In analyzing the function or "use" of language, Britton begins with a split which is essentially between literary and expository text. He takes this traditional starting point, however, and reformulates it in terms of the relationship between the language user and the language experience; like Halliday, he focuses our attention on the semantic purpose of the text, rather than on its surface linguistic features.

On the other hand, there is language that is concerned with objectivity and task fulfillment, whether that task relates to the exigencies of day-to-day living ("Place your order here") or to the complications of theory-building and professional discourse. Britton calls language used in these ways transactional, since it is the basis for objective exchange of information and argument in our transactions with one another.

On the one hand, there is language that invites the reader to "live through" an experience and to construct a personal, essentially subjective interpretation of it. Such language differs from the transactional in that the represented experience becomes important in itself, rather than being used as a tool toward some other end. Following Aristotle, Britton calls language used in this way poetic, and includes within it the whole spectrum of literary genres.

There are a number of subdivisions in Britton's model, the most useful of which is an abstractive scale underlying expository prose--Britton's transactional. The subcategories here are an elaboration of a set proposed by Moffett (1968); they range from a simple report of ongoing experience to tautological argument in which the conclusions reached are in one sense fully entailed within the premises from which the text begins. Movement along this scale of abstraction involves movement through a series of differing, and

increasingly formalized and explicit, systems of logic.

In his studies of secondary school writing, Britton found characteristic differences in the level of abstraction emphasized in different subject areas and at different grade levels. He found almost no writing, in any subject, that moved beyond essentially classificatory types of writing.

For the present study we began with Britton's work, extending and adapting his categories for our own purposes. The system that resulted is presented in chapter 3.

THE INSTRUCTIONAL CONTEXT

Though having systematic ways to describe student writing was a necessary first step in our work, it is also true that being able to describe completed writing tells us little about how the writer achieved that form. A simple one-page report of a science experiment, for example, could represent a wide range of differing activities: a one-shot exercise completed by a student who understood the instructions; the last in a long series of similar reports, each discussed and refined by the teacher; or a formula piece, where students were given a line-by-line framework to fill in with the details of a particular experiment. The completed writing could also represent anything from a first quick draft to a carefully rewritten piece incorporating teacher comments and corrections.

The present study sought to explore such differences by investigating the instructional context within which students were being asked to write. This context has many facets, including writing frequency, steps insisted upon in the writing task (research,

review, prewriting, first drafts, revisions, editing, peer-criticism, teachers' reactions, and so on), and teachers' emphases in marking.

Frequency of writing is probably the easiest aspect of writing instruction to measure, and is obviously important. Still we have no carefully collected data about the frequency or nature of writing tasks required of the typical American secondary school student, though some information is available about highly selected groups. In a study of winners in the NCTE Achievement Awards in Writing competition, for example, we found that about 80 percent of the students were doing some paragraph-length writing for English each week (Applebee, 1978b). Although English accounted for a larger portion of the required writing than did any other single subject area, it still accounted for less than half of the writing the students were doing. This contributed to our decision to examine the nature of the writing required in a variety of subject areas as part of the present study. (The demands may be sharply contrasting: compare the poem written in response to a film during an English lesson with the essay on 'sportsmanship' given as a disciplinary measure by the physical education teacher. Each assignment contributes in its own way to students' attitudes toward writing and to their ultimate writing proficiency.)

In twelfth grade English, the essay on literary topics represented over half of the continuous writing completed by the award-winning students; creative or imaginative writing represented 23 percent, an apparent increase over proportions found during the 1960s (Squire and Applebee, 1968). Both frequency of writing and topics

for writing varied significantly with such factors as class size and type of curriculum (e.g., nontraditional electives versus English IV). Similarly, large variations could be expected between the experiences of those award-winning, highly motivated students and those of more typical students.

In conceptualizing our approach to other aspects of instruction, we turned again to studies of language use and language development. Halliday (1977), in discussing the development of language skills in his son Nigel, illustrated how as an infant Nigel structured his first simple narratives in interaction with adults. In one example, Nigel returned from the zoo and began to talk with his father (and later his mother) about an incident in which a goat had tried to eat a plastic garbage pail lid:

> N. try eat lid
> F. What tried to eat the lid?
> N. try eat lid
> F. What tried to eat the lid?
> N. goat . . . man said no . . . goat try to eat lid . . . man said no
>
> Then, after a further interval, while being put to bed:
>
> N. goat try eat lid . . . man said no
> M. Why did the man say no?
> N. goat shouldn't eat lid . . . (shaking head) good for it
> M. The goat shouldn't eat the lid; it's not good for it.
> N. goat try eat lid . . . man said no . . . goat shouldn't eat lid . . . (shaking head) good for it
>
> This story is then repeated as a whole, verbatim, at frequent intervals over the next few months.
>
> (Halliday, 1977; p. 112)

Among the interesting features of this interaction are 1) that it relies on a skill which the child has already developed (dialogue)

to develop a new skill (narrative); (2) that the help is provided to accomplish a task that the child wishes to accomplish but cannot successfully accomplish on his own; and (3) that the help is gradually withdrawn as the child becomes capable of sustaining this level of discourse on his own. The process is a very general one in language learning, providing a scaffold (Bruner, 1978) or support that allows the child to engage in a task that would otherwise be too difficult and also teaching a general procedure which eventually makes the support unnecessary.

Cazden (in press) has pointed out that the "scaffold" in such a situation is a very unusual scaffold indeed, one that "self-destructs gradually as the need lessens, and is then replaced by a new structure for a more elaborate construction." Basing her discussion both on studies of language learning in the home and on studies of classroom discourse, Cazden comments:

> Ideally, it seems to me, one would hope to find opportunities for children to practice a growing range of discourse functions--explaining, narrating, instructing, etc.--first in situations in which a scaffold or model of some appropriate kind is available, and then gradually with less and less help. Such opportunities should be especially important for practice in the various kinds of extended monologues that children are expected to write in assigned themes.

The concept of instructional "scaffolding" or support provided us with a very powerful way to look at the teaching of writing, particularly when it was combined with an analysis of writing as a process which varies from task to task and which poses differing problems for the writer at different points in time.

In the ideal instructional situation, we would expect that

students would gradually take on more difficult writing tasks, with appropriate instructional support that would in turn gradually be withdrawn. Though we found little that approximated this ideal, we remain convinced that differences in the extent and nature of the instructional scaffolding or support provided may well be the most significant differences in teachers' approaches to writing.

DESIGN OF THE STUDY

In order to develop as rich a portrait as possible of current practice within the constraints of budgets and time, two related strands of research were planned. The first strand involved classroom observations of writing assignments and related instruction in two midwestern high schools, over a full academic year. This strand was designed to give us a detailed picture of the place of writing in the schools, without the complications introduced by self-report data. We were able to study in some detail the attitudes and practices of particular teachers in a variety of subject areas, and to examine students' reactions to the writing they were asked to do. Because the data were gathered through classroom observation, we also had the opportunity to sharpen our sense of the questions we wanted to ask, refining our hypotheses about significant dimensions of variation in instruction.

Observations based on two schools, however extensive, remain essentially case studies of particular situations. To relate what we were observing to more general practice, the second strand of the study involved a national questionnaire survey of teachers in six

major subject areas: English, foreign language, mathematics, science, social science, and business education. Though the data in this strand are limited to what teachers say they are doing, the responses do reflect their attitudes about good practice, and allowed us to investigate how these attitudes varied with such factors as subject area and grade level.

Overview of the Report

In the report that follows, results from the various parts of the study are woven together around the major research topics: the types of writing students are asked to do, teachers' purposes in making these assignments, and the interaction of purposes with the writing instruction provided. Chapter 6 brings the major findings together in one place, highlighting the results in outline form. The final chapter places the results in the context of the more general question of what is needed to improve writing instruction in the secondary school. In service of the same goal, appendix 2 provides a bibliography of materials that offer practical, classroom-oriented suggestions for incorporating writing into a variety of different subject areas. Other appendices provide further details about results and instrumentation, for researchers who want them.

Chapter Two

Procedures

The design of the study incorporated both observational studies and a national questionnaire survey. The observational studies, which began in October 1979, concentrated on the nature and frequency of situations in which students were being asked to write in all subject areas. For most of the observations, the individual lesson was taken as the sampling unit, with random observations of regular class instruction scheduled throughout the academic year.

A few additional lesson sequences were observed in order to trace the unfolding of writing episodes over sequences of related lessons. Because these lesson sequences were not randomly selected, they are drawn upon only anecdotally in the discussions that follow; they were not included in the statistical analyses.

The national questionnaire survey concentrated on six major subject areas. By gathering information from a larger and more representative sample, it was designed to allow us to relate specific findings from the observational studies to more general practice in American schools.

OBSERVATIONAL STUDIES

Observation Schedules

The major instrument developed for the observational studies was a simple log of class activities (appendix 3) with space to note time to the nearest minute (read from a digital display). The central section of the log-sheet was used to describe the types of class activities observed (e.g. class discussion, teacher presentation, transition), as well as any writing or notetaking activities. Time

was recorded whenever activities changed or were interrupted. During periods of whole-class discussion, occurrences of teacher or pupil questions were also recorded.

After a lesson ended, observers used the information on the log to code the occurrence and duration of various activities; coding instructions and full definitions of measures are included in appendix 3.

In addition to the coded data derived from each observation, observers prepared brief accounts of the significant elements in the lesson as a whole. The nature of these accounts varied depending upon the lesson, but the focus was on teacher and pupil expectations, as reflected in the patterns of interaction and social relationships apparent during the observations. (Specific examples and teacher-pupil dialogue were noted on the log of activities.) These accounts provided many examples useful in interpreting empirical results, and were a rich source of hypotheses for later exploration.

Because we sought the cooperation of teachers in the two schools over the whole academic year, observation procedures were designed to minimize demands on teacher time. The major request made by the study was to be allowed into the classroom; beyond that point, observers attempted to gather the data without intruding further. When student writing was observed, however, observers asked to borrow the set of papers; a random sample of six scripts was then photocopied for later analysis, and the originals were returned to the teacher. Scripts, logs of observations, and code sheets were identified by code number; teachers' and students' names were removed whenever they occurred.

Sample

Two schools were selected for the observational studies after meetings with the principals, department heads, and teachers involved. One school was selected as a relatively typical city high school, serving a diverse population with a range of goals; the other, a university-run laboratory school, was selected to provide as sharp a contrast as possible in instructional goals and practices.

The original research design called for observations of ninth and twelfth grade classes, the extremes of the senior high school years. Discussions with department heads at the laboratory school, however, made it clear that many seniors took university classes, and that instruction during the spring tended to be atypical, with a change of emphasis and activities after college entrance had been assured. Because of this, the focus in the study as a whole was shifted to ninth and eleventh grade classes.

The two schools participating in the observations are described briefly below.

The Laboratory School

The laboratory school is associated with a large state university in the midwest and exists to assist in the research, training, and service activities of the university's curriculum laboratory and college of education. Admission is competitive (there are three or more applicants for each opening) and is limited to 250 students in five grades. Students selected for admission must have ranked in the top 10 percent of their classes as measured by standardized group tests. In addition, they are tested by the school before acceptance.

grade year

freshman) class.

mixed. this mix is

the university (with which

Students are not

English, science, mathematics,

, and course offerings are

the graduating students continue

and eleventh grade classes agreed to

The participating teachers were from mathe-

, social studies (3), English (2), and

participating in the study is one of three

located in a midwestern community of approximately

serves some 1,400 students in four grades. The

racially and ethnically mixed (79.3 percent

minority) and represents a true cross section of

as well as a diverse group of interests and needs.

a comprehensive school and students may choose from a wide

vocational or college preparatory courses. The school also

special education and educable mentally handicapped students.

courses are one semester in length and students must register for

five academic classes and physical education each semester. To graduate, students must accumulate either 16 (class of 1980) or 18 (classes after 1980) credits, including three credits in English, one and a half in physical education, one in social studies, one half in health, and one half in consumer education, and (for classes after 1980) two in mathematics and science.

Deliberate ability-level grouping occurs only in ninth grade English. Based on their performance in the middle schools, on teacher recommendations, and on standardized testing, entering students are placed in either a high, average, or low section of this course. Low sections have fewer students than higher sections and students receive more individualized attention. Grouping in other areas is not deliberate but occurs through a student's choice of courses (biology over life science, algebra over general mathematics).

Approximately 60 percent of the graduating students of this school continue their formal education.

Of the 60 teachers at the appropriate grade levels, 48 agreed to participate in the study. Eight declined to participate at all, two had student teachers who did not wish to be visited, and two had classes that were regularly out of the building as part of work-study and career education programs. The participating teachers were from English (11), foreign language (4), science (5), social studies (4), mathematics (4), business education (6), art (2), industrial arts (7), home economics (1), and special education (4).

Classes Observed

Observations of randomly selected ninth and eleventh grade classes

began in October 1979 and continued through April 1980. In all, 309 lessons were observed during 25 weeks of school. Of these, 259 observations fell within the main sampling frame. The remaining lessons included 22 repeated observations to provide a check of observer reliability, 12 representing unusual grade level or subject area combinations (e.g., a personal typing class with students from all four high school grades), and 16 chosen to look at lesson sequences of particular interest. Table 1 summarizes the number of classes observed in each subject at each grade level. English classes, where we expected to find more writing activities, were deliberately oversampled. Subject areas included under "other" include a range of practical and applied courses, particularly in the areas of industrial arts, domestic science, and art.

The number of observations of any given teacher varied, depending upon subject area, the number of participating teachers at the grade levels sampled, and the outcome of the random selection of classes. Over the course of the year, the number of observations for each teacher ranged from 1 to 11, with an average of 3.5 at the city high school and 4.7 at the laboratory school.

Profiles of Class Activities

The way a teacher typically organizes a lesson to some extent constrains the writing that will be observed. Except for note-taking, for example, we would expect to find little writing during class discussions. Supplementary tables 1 and 2, appendix 1, provide a detailed summary of the types of activities observed during the classroom visits. At the laboratory school, the major activity was teacher-

Table 1
Observations Completed

	Laboratory School		City High School		
	Grade 9	Grade 11	Grade 9	Grade 11	
English	9	9	16	22	56
Foreign Language	8	11	11	6	36
Math	10	8	12	7	37
Science	10	9	8	11	38
Social Science	10	9	10	9	38
Business Education			0	17	17
Special Education			5	9	24
Other			5	18	23
	47	46	67	99	259

led class discussion; this accounted for an average of 41 percent of the class time. (For the most part, this was also teacher-dominated discussion; teachers asked 70.3 percent of the questions during such discussions at the laboratory school, and 77.5 percent at the city high school.) Another 15 percent of time was spent taking tests or correcting exercises, 12 percent on group work, and 9 percent on seat work with individual students working on their own. The pattern at the city high school was somewhat different. Only an average of 28 percent of class time was spent on teacher-led class discussion and only 4 percent on group work. Instead there was more emphasis on individual seat work, which accounted for 31 percent of class time.

Class sizes at the city high school averaged 18.8, significantly higher than the 16.0 observed at the laboratory school. Correlations with patterns of class activities were slight, however. At the city high school, time spent on individual seat work actually increased slightly as classes got smaller ($r=-.13$, $p<.05$), reflecting the popularity of such work in small remedial classes. Pooling the two samples, time spent on teacher presentation was likely to increase ($r.10$, $p<.05$) and pupil-led discussion to decrease ($r=-.12$, $p<.03$) as class sizes went up. The only relatively strong relationship between class activities and class size occurred for the time spent on administration and transition, which increased with the number of students to be managed ($r.21$, $p<.001$).

Observer Bias

Placing an observer in a classroom inevitably alters the classroom

climate to some degree. In the present study, teachers were aware that our overall concern was with student uses of writing, and were always told of planned observations at least a day in advance. This gave them the opportunity to ask us not to come to a particular lesson, or to place more emphasis on writing than might otherwise have occurred. Occasionally, it was clear that one or the other of these biases did occur. Students asked to take notes in one social science class were plainly puzzled by the request, and wanted to know why this new task was being demanded; others in a German class, though cooperative and eager, were caught unprepared when asked to write out their answers to oral exercises, and had to ask for paper; the teacher in an English literature class suddenly shifted ground and asked students to write about how they write papers--because, as she told us later, she thought we would be interested in what the students had to say.

A few such instances not withstanding, the teachers and students soon seemed used to our presence, and went about their usual tasks in their usual ways. The relatively low incidence of writing and related activities in the lessons observed (see chapter 3) suggests that very few of the teachers were trying to show us what they thought we wanted to see.

NATIONAL SURVEY

Questionnaire Development

The questionnaire for the national survey was developed in three stages. A first version of the questionnaire, based in part on earlier surveys (Applebee, 1978a, 1978b) and in part on first semester results from the observational studies, was circulated for criticism among

staff members, English department heads, and selected outside experts in the field of composition. From their reactions, a revised version was prepared for piloting in the schools cooperating in the observational studies. All 68 participating teachers were asked to complete this pilot version; 67 completed questionnaires were returned and analyzed.

The questionnaire was organized into a number of sets of related questions, focusing on such areas as goals for writing instruction, marking practices, methods of structuring assignments, audiences for student writing, and the nature and frequency of writing assignments. Initial analyses of the various subsets of questions revealed a tendency for each to be dominated by the teacher's estimate of the overall importance of writing to his or her particular subject area, though some secondary patterns of response were also evident after removing this general "importance of writing" factor. For the final version of the questionnaire, questions were revised to separate "importance of writing" from other attitudes, and to provide more balanced sampling of items related to the various secondary patterns that emerged from the analyses. (Discussions of the specific nature of these patterns, as well as of the extent to which they held up in moving from the pilot to the main sample, are included in the presentation of results.)

The final version of the questionnaire was largely self-coding, but a small number of open-ended questions sampling general attitudes were also included. In addition, teachers with classes in which any writing of at least paragraph length was required were asked to include photocopies of two papers: one from the top quarter and one from the bottom quarter of those received in response to a recent

assignment. Students' names and other identifying information were removed from all samples, and teachers could indicate if they preferred that the papers not be quoted in reporting results from the survey. A copy of the questionnaire is included in appendix 4.

Sample Selection

A two-stage sampling procedure was used for the national survey, with a number of steps being taken to insure that the response rate would be high and the sample representative:

1. Buildings containing ninth graders and those containing eleventh graders were separately sampled from the population of all public school nationally. The sample was stratified by metropolitan status (metropolitan area, urban fringe, or rural) using U.S. census categorizations (Bureau of the Census, 1978), and by school size. Within cells, samples were randomly drawn with sampling fractions proportionate to total enrollment.

2. Principals received individually typed and signed requests for assistance; these letters pointed out that only about 100 schools at the grade level sampled were being asked to participate, and hence that each response was especially important. To insure that questionnaire responses would represent "good practice" in each of the subject areas, principals were asked to nominate six competent teachers to participate in the survey, one each for English, science, social science, mathematics, foreign language, and business education. The teachers were to be selected on the basis of their competence in teaching their own subjects, rather than for special interest in

student writing. Principals were given the option of replying by mail or being contacted later by telephone if they wished more information before deciding whether to participate. To personalize the survey as much as possible, envelopes and reply envelopes were hand stamped.

3. Nominated teachers were addressed by name, and received letters tailored to their particular subject area. The letters pointed out that they had been nominated as "good teachers" by their principal and that the small number of schools being asked to participate made each response particularly important. In addition, a new one dollar bill was included with each questionnaire, as a token of the importance placed on the response and to defray expenses for postage and for photocopying the writing samples that were requested. Responses were identified only by school code numbers.

4. Because teaching practices and attitudes toward writing may vary from class to class even for a particular teacher, each teacher was asked to report on a single class in the appropriate subject at the sampled grade level. The class to be reported on was randomly selected by project staff on the basis of principals' reports of the number of eligible classes taught by that teacher. Instructions to teachers were phrased in terms of the "first/second/.../last" such class met each day.

Response Rates

The initial sample of buildings within cells in the sampling frame was drawn by Market Data Retrieval, Inc., from their comprehensive lists of U.S. schools. Problems involved in obtaining a research sample from lists designed primarily for high-volume com-

mercial mailings delayed the start of the survey, and meant that sampling of teachers continued until the end of the academic year--when pressures of exams, final reports, and summer vacations were at their height.

Nonetheless, response rates were good. Of the 235 building principals contacted, 196, or 83 percent, nominated teachers to participate. (Eleven others agreed to participate but did not follow through with nominations of specific teachers.) Response rates were relatively constant across cells, except for fluctuation related to building size in the ninth grade sample. Principals who did not allow their schools to participate cited a variety of reasons; the most frequent were policies limiting participation to district-sponsored studies, the end-of-year crush in districts that close relatively early, and an unwillingness to burden teachers with any additional tasks. Response rates by school size and metropolitan area are summarized in table 2.

The 196 building principals nominated a total of 1,108 teachers to receive the questionnaires. Of these, 754, or 68 percent, responded with useable questionnaires before the closing date of July 1, 1980. The responses represented classes taught over a 14 week period in the spring of 1980. Again, response rates were relatively constant across cells of the design, with the lowest rate of response from eleventh grade foreign language teachers (49 percent) and the highest from ninth grade English teachers (78 percent). Response rates by school size, metropolitan area, and subject are summarized in table 3.

In addition to completing the questionnaire, teachers were asked to provide 2 samples of student writing in response to a recent assignment, if samples were available. Overall, 28 percent of the

Table 2

Rate of Participation: Schools

	Grade 9			Grade 11		
	Number Contacted	Number Participating	Response Rate (%)	Number Contacted	Number Participating	Response Rate (%)
Metropolitan status						
Metropolitan area	65	53	81.5	50	41	82.0
Urban fringe	26	20	76.9	26	21	80.8
Rural	34	29	85.3	34	32	94.1
Enrollment range						
Under 500	14	8	57.1	11	10	90.9
500-999	53	48	90.6	46	38	82.6
1000-2499	46	39	84.7	38	34	89.5
2500+	12	7	58.3	15	12	80.0
All	125	102	81.6	110	94	85.5

Table 3

Rate of Participation: Teachers

	Grade 9			Grade 11		
	Number Contacted	Number Participating	Response Rate (%)	Number Contacted	Number Participating	Response Rate (%)
Metropolitan status						
Metropolitan area	293	207	70.6	242	163	67.4
Urban fringe	107	74	69.2	125	73	58.4
Rural	149	107	71.8	192	130	67.7
Enrollment range						
Under 500	39	27	69.2	49	37	75.5
500-999	259	195	75.3	228	149	65.4
1000-2499	211	141	66.8	204	129	63.2
2500+	40	25	62.5	78	51	65.4
Subject Area						
English	102	80	78.4	94	67	71.3
Foreign Language	82	58	70.7	92	45	48.9
Math	100	78	78.0	94	65	69.1
Science	96	69	71.9	94	66	70.2
Social Science	97	59	60.8	93	60	64.5
Business Education	72	44	61.1	92	63	68.5
All	549	388	70.7	559	366	65.5

teachers provided the samples requested, but there were large subject-area differences in response rates (table 4).

Characteristics of Participating Teachers and Schools

Tables 5 and 6 summarize a number of general characteristics of the participating schools and teachers, as well as of the particular classes upon which the teachers were asked to report

Schools in metropolitan areas, which have the largest proportion of students, were most heavily represented in the sample; similarly, the number of schools sampled within each enrollment range was proportional to the number of students and teachers represented, rather than to the number of separate buildings in the sampled population. The four major census regions were relatively equally represented at grade nine, though at grade eleven the west was somewhat underrepresented and the south was overrepresented. The percent of students eventually going on to some form of higher education averaged just under 50 percent; the percent of nonwhite minorities, just over 10 percent.

The general characteristics of the participating teachers and classes suggest that they were indeed somewhat better than average, as should have been the case since principals were asked to nominate "good" teachers. Classes with below average (including special education) students were markedly undersampled, representing only 12 percent of the classes at grade nine and 4 percent at grade eleven. The teachers tended to have more experience than would be expected in a random sample, averaging 12 and 14 years for the ninth and eleventh grade samples, respectively. Over a fourth of the sampled teachers

Table 4
Teachers Providing Writing Samples

Subject	Number of Teachers	Percent Providing Samples
English	147	58.5
Foreign Language	103	25.2
Math	143	4.9
Science	135	28.9
Social Science	119	11.5
Business Education	107	15.9
Total:	754	27.6

Table 5
Characteristics of Sampled Schools

	Percent of Schools	
Metropolitan status	Grade 9 n=102	Grade 11 n=94
Metropolitan area	52.0	43.6
Urban fringe	19.6	22.3
Rural	28.4	34.0
Enrollment range		
Under 500	7.8	10.6
500-999	47.1	40.4
1000-2499	38.2	36.2
2500+	6.9	12.8
Region		
Northeast	20.6	27.7
North Central	29.4	24.5
South	28.4	37.2
West	21.6	10.6
	Averages	
Percent college bound	47.0	48.3
Percent nonwhite	11.9	10.4

Table 6

Characteristics of Sampled Classes and Teachers

	Percent of Teachers Reporting								Chi-square tests	
	Subject Area						Grade			
	English	Foreign Language	Math	Science	Social Science	Business	Ninth	Eleventh	Subject	Grade
Class is: Required	72.3	3.0	15.5	23.9	75.2	5.7	43.7	24.9	442.98***	49.70***
Option in required area	21.3	4.0	50.7	28.4	14.2	9.5	27.1	20.6		
Elective	6.4	93.1	33.8	47.8	10.6	84.8	29.2	54.6		
	(n=141)	(n=101)	(n=142)	(n=134)	(n=113)	(n=105)	(n=373)	(n=350)	(df=10)	(df=2)
Ability: Mixed	32.1	35.6	20.3	25.4	45.5	40.2	34.3	30.1	86.47***	29.17***
Above average	28.6	51.6	47.6	46.3	18.8	18.7	27.9	43.0		
Average	26.4	12.9	23.1	19.4	25.9	38.3	25.5	23.2		
Below average	12.9	0.0	9.1	9.0	9.8	2.8	12.2	3.7		
	(n=140)	(n=101)	(n=143)	(n=134)	(n=112)	(n=107)	(n=376)	(n=349)	(df=15)	(df=3)
Teacher's age: Under 30	24.1	27.7	16.9	15.0	21.1	21.0	24.4	15.9	36.08*	11.14*
30-39	47.5	40.6	50.0	42.1	43.0	39.0	43.8	44.2		
40-49	14.2	10.9	22.5	24.1	24.6	28.6	19.1	22.5		
50-59	12.1	19.8	7.0	16.5	9.6	11.4	11.7	14.7		
60 or above	2.1	1.0	3.5	2.3	1.8	0.0	1.1	2.6		
	(n=141)	(n=101)	(n=142)	(n=133)	(n=114)	(n=105)	(n=377)	(n=346)	(df=20)	(df=4)
Teacher has supervisory responsibilities over other teachers	27.7	20.6	30.8	34.6	28.9	27.9	20.0	37.9	5.93	28.4***
	(n=141)	(n=102)	(n=143)	(n=133)	(n=114)	(n=104)	(n=375)	(n=348)	(df=5)	(df=1)
	Averages								F-Statistics	
									Subject	Grade	Interaction
Class size	25.4	18.9	23.7	23.4	26.1	22.0	24.6	22.2	17.34**	25.20**	1.78
	(n=119)	(n=80)	(n=122)	(n=101)	(n=86)	(n=86)	(n=306)	(n=288)	5;582	1;582	5;582
Years of teaching experience	12.8	11.7	13.3	14.5	12.1	12.2	11.82	14.11	2.18	16.32**	24.45
	(n=128)	(n=89)	(n=134)	(n=129)	(n=105)	(n=93)	(n=357)	(n=321)			

* $p < .05$

** $p < .01$

*** $p < .001$

had supervisory responsibilities over other teachers (e.g., as department head or team leader).

SUBSTUDIES

In addition to the major observational and survey studies, several smaller scale studies were undertaken to amplify the results. These involved 1) more intensive examination of episodes in which writing of at least paragraph length was being undertaken by the students, including observations of the behavior of selected pupils while they were writing; 2) interviews with students about their writing experiences and attitudes toward writing; and 3) interviews with selected teachers about instructional goals and teaching practices.

Writing Episodes and Student Writing Behavior

Within the broad spectrum of activities related to writing which could be observed in any secondary school classroom, a subset of activities involving continuous, original writing are of special interest. A relatively extensive coding system was developed to analyze these episodes, based on information recorded on the log of class activities (discussed earlier). An alternative observation system, focusing on the behavior of individual students during a writing episode, was also developed. Only 33 episodes were observed, however, and these usually included only prewriting activities or discussion of corrected work just returned by the teacher. This relatively low incidence of observed writing made the detailed coding and analysis irrelevant; observations drawn from the writing episodes that were

observed will be dealt with anecdotally in the course of presenting and discussing other results.

Student Interviews

To add a third perspective to those provided by teacher responses and classroom observations, a standardized interview schedule taking between 10 and 45 minutes was prepared and piloted. Interviews with 41 students (nominated by their English teachers as successful or unsuccessful ninth or eleventh grade writers) were completed; 23 were from the city high school and 18 from the laboratory school. Each interview was tape recorded. Although portions of these interviews have been transcribed as illustrations of student responses, data were coded directly from the recordings. A copy of the final interview schedule (which asked about writing in a variety of subjects) is included in appendix 4.

Teacher Interviews

Another substudy focused on the perceptions and classroom practices of 8 City High School teachers selected to represent a range of subject areas and approaches. An interview schedule focusing on the types of writing they assign and the purposes of these assignments was prepared, and half-hour interviews were recorded with each teacher. These interviews were transcribed, and excerpts are used in the report that follows to help interpret the instructional emphases observed. A copy of the interview schedule used is included in appendix 4.

SCORING WRITING SAMPLES

In both the observational studies and the national survey, samples of student writing in various subject areas were collected as

illustrations of the kinds of writing tasks students were being asked to complete. After all data had been gathered, writing samples from both sources were compiled, edited to remove any identifying information (except code numbers), randomly ordered, and divided into six sets of approximately 100 samples each. These sets of papers were then categorized by a team of six raters according to the implied audience for the writing and the function or purpose.

In both cases, one set of 82 papers was put through the entire scoring process twice, with different raters or teams of raters, to obtain estimates of interrater agreement. The specific measures used are described at the appropriate points in the presentation and discussion of results.

ANALYSIS OF DATA

Data from all phases of this study were prepared for computer analysis by project staff. Analyses sought to explore significant patterns of relationships among the various measures; given the design of the study, all such relationships are correlational rather than causal, though some of the relationships suggest causal hypotheses.

Dependent measures which approximated an equal-interval scale were analyzed using multivariate analysis of variance. Main and interaction effects were separately tested, using the classical model in which each effect is estimated after allowing for the influence of all other effects.

In these analyses, main effects of subject area, grade level, and teachers' attitudes were of much greater magnitude than were interaction effects (which for the most part were not statistically significant). This has allowed us to simplify the tables somewhat in presenting the results, presenting summary statistics separately by grade level and by subject area instead of displaying their full interaction. Similarly, chi-square analyses of nominal data concentrated on main effects and ignored interactions.

For some sets of variables, the two approaches were combined. Chi-square tests were used for individual items, partly because tables of percent of teachers responding are simpler to interpret, and partly because this test makes few assumptions about the nature of the underlying scale. At the same time, multivariate analysis of variance was used for sets of related items, to provide an overall test of the significance of each effect, given multiple measures on the same sample. Since the assumptions of an interval scale are rarely met in full in these analyses, the resulting test statistics should be treated as approximations rather than exact tests.

SUMMARY

To investigate the nature and frequency of the writing tasks that secondary school students undertake, year-long observation of instruction in two contrasting secondary schools was combined with a national questionnaire survey of teachers in six major subject areas: English, mathematics, foreign language, science, social science, and business education. For the observational studies, observers used a simple log

to record the activities in 259 lessons representing 13,293 minutes of instruction divided between ninth and eleventh grade classes in the two schools. Cooperation from the faculty in both schools was outstanding, with 85 percent of the teachers who might have participated allowing observers to visit on a random basis throughout the school year.

For the national survey, a two-stage sampling procedure was used. First, principals were asked to nominate a "good" teacher in each of the six target subject areas, and the nominated teachers were asked in turn to complete a questionnaire about writing and related activities in a specific class. In all, 83 percent of the principals and 68 percent of the teachers contacted provided useable responses, giving a national sample of 754 teachers stratified by school size and metropolitan status. The sample as a whole was skewed toward better teachers and classes; the teachers had more experience and more supervisory responsibilities than the typical teacher, and students of below average ability were underrepresented in the classes on which the teachers reported. The portrait of student writing that emerges from these responses might thus be expected to be a "best case" version of instruction in American schools.

Chapter Three

The Writing Students Do

One of the first problems which the research team had to confront was that of describing the writing that students do. This problem had two parts: 1) where to draw the line between "writing" activities and other activities that might involve pencil and paper, and 2) given a range of writing activities (by whatever definition of writing), how to sort those activities into categories that would say something useful about the nature of the tasks that students were undertaking.

For research purposes, we decided to consider writing in the broadest possible sense, as any activity in which students were using written language (including numbers) to record information or opinions for later reference by the teacher, fellow students, or themselves. In this sense, such activities as multiple-choice exercises, dictation, and translation were considered to be writing, although the tasks these pose for the student involve supplying information more than composing coherent text.

USES OF WRITING

When it comes to describing the writing observed, previous work offers a variety of approaches, each appropriate for different purposes (see Cooper and Odell, 1977; Metzger, 1976; Tate, 1976 for overviews of major approaches). At the level of the text as a whole, the usual classification has been in terms of mode of discourse (narration, description, exposition, argumentation, and sometimes poetry). These modes have a long history and continue to be widely used in both experimental and descriptive studies (e.g. Donlan, 1974; Perron, 1977; Bereiter and Scardamalia, in press).

Though the modes are a convenient shorthand for describing certain techniques for organizing text passages, they ignore important dimensions involved in the use of language. Narrative, for example, can be used to

support an argument, report information, or to tell a story, and its characteristics in each of these uses will vary in systematic ways (Kinneavy, 1971). James Britton (1970; et al., 1975), basing his work on a study of writing in the major subject areas of British schools, has proposed a comprehensive alternative to the traditional modes of discourse. As we saw in Chapter 1, Britton's system is grounded in an analysis of the function (or use) of language represented by the writing sample. The major categories within the system contrast language used to inform or persuade with that used to present an experience in a literary form.

Though the terminology is different, the thrust of Britton's work is parallel to that of James Kinneavy's (1971) analysis of aims of discourse, and has been used successfully in a number of recent studies by other investigators (e.g., Lunzer and Gardner, 1979; Renehan, 1977; Searle, 1975; Whale and Robinson, 1978). For the present study, Britton's terminology was reworked to make it more useful for observational and self-report data, and was extended to encompass a variety of tasks which involve writing but not composing that were not a concern in Britton's studies.

Figure 1 summarizes the categories. The first set of tasks all involve the use of written language, but in one way or another allow the student to bypass the problem of creating extended, coherent text. All tend to emphasize the accuracy of the specific information being supplied by the student, rather than the ability to organize and present that information coherently.

The second set of tasks are what Britton et al. (1975) called "transactional" uses of language; they too share an emphasis on the use of writing to record or share information, but they differ from the

Figure 1

Uses of School Writing

10 Writing without composing (mechanical uses of writing)

11. Multiple-choice exercises.

12. Fill in the blank exercises (answered with less than a sentence).

13. Short answer exercises (brief, one or two sentences per question).

14. Math calculations.

15. Transcription from written material (copying).

16. Transcription from oral sources (dictation).

17. Translation.

18. Other mechanical uses.

20 Informational uses of writing

21. Note-taking.

22. Record, of on-going experience. (This is what is happening.)

23. Report. Retrospective account of particular events or series of events. (This is what happened).

24. Summary. Generalized narrative or description of a recurrent pattern of events or steps in a procedure. (This is what happens; this is the way it is done.)

25. Analysis. Generalization and classification related to a situation, problem, or theme, with logical or hierarchical relationships among generalizations implicit or explicit.

26. Theory. Building and defending at a theoretical level, including implicit or explicit recognition that there are alternative perspectives. Hypotheses and deductions from them.

27. Persuasive or regulative uses of writing. (Any instances in which the attempt to convince overrides other functions or in which rules are given and compliance assumed.)

28. Other informational uses.

30 Personal uses of writing

31. Journal or diary writing, for own use.

32. Personal letters or notes, where main purpose is "keeping in touch."

33. Other personal uses.

40 Imaginative uses of writing

41. Stories.

42. Poems.

43. Play scripts.

44. Other imaginiative uses.

50 Any other uses of writing.

mechanical writing tasks in that they all require the writer to shape the text, as well as to select and organize the information.

Within the general category of informational uses of writing there are three somewhat different types of activities represented. The first is note-taking, in which the demands for a well-shaped text are somewhat minimized. Though the notes may be very extensive, a variety of devices can be incorporated to abbreviate the text, including using outline form and special layout on the page. Ordinarily, the primary audience for the notes will be the writer and they do not need to be fully intelligible to anyone else.

The second type of activities within the informational uses of writing comprise traditional essay and report writing tasks, here subdivided into a scale of increasing levels of abstraction (moving from record to theory in figure 1). Writing of this sort usually involves at least a paragraph, and can range upward in length to extensive reports or, in out of school contexts, to full length books.

The third type of activity within informational uses of writing involves tasks in which the level of abstraction becomes less important than achieving a particular effect on the reader. This is what Britton et al. (1975) call "connotative" writing. It takes the form of writing in which the attempt to convince overrides all other considerations (as in advertisements), as well as writing in which rules are given in a context in which compliance is assumed (as in a list of school rules).

The third general set of writing activities in figure 1 involves personal uses of writing, in which the focus is on the interests and activities of the writer. Most typically, such writing takes the form of a journal or diary, or of letters or notes to close friends in which the main purpose is simply "keeping in touch." Some forms of note

taking can also fall into this category, particularly when the notes are used as a form of thinking aloud on paper, a preliminary sorting out of new ideas or experiences. This is the type of writing that Britton et al. label "expressive."

The final set of writing activities in figure 1 shares an emphasis on the imaginative reconstruction of experience through stories, poems, or other literary art forms. Here the focus is on the nature of the particular experience rather than on the "information" conveyed. These are the types of writing which Britton et al. (1975) labelled poetic, to emphasize the role that the structure of the language itself plays in such writing.

In applying the categories on figure 1, writing in a foreign language was classified according to the kind of task being undertaken; "translation" was used only for direct translation from one language to another.

We should note, too, that the uses of writing summarized in figure 1 focus on school writing completed in class or at home. A broader study of writing unrelated to school might begin with the same major dimensions, but a variety of additional subcategories would be needed.

The scoring manual used to apply these categories to school writing is included in appendix 5. Each writing sample was scored by three raters working independently. Their assessments were then pooled, with the verdict based on agreement by at least 2 of the 3 raters. (Verdicts were possible in all cases.) Reliability, estimated by rescoring a subsample of 82 papers by a second team of 3 raters and comparing verdicts from the two processes, was .67. In the full sample, the average agreement between the final verdict and categorizations by a single rater was 69 percent.

The Writing Observed

Using the broad definition of writing adopted for the purposes of the study, writing activities occupied a significant proportion of class time in all of the subject areas observed. (See supplementary table 3, appendix 1.) Pooling all observations, an average of 44 percent of the observed lesson time involved writing activities of one type or another. These activities were dominated by mechanical and informational uses of writing (occurring during an average of 24 and 20 percent of observed lesson time, respectively). Informational writing was dominated by note taking (17 percent of observed time), however. On average, only 3 percent of lesson time was devoted to longer writing, requiring the student to produce at least a paragraph of coherent text. Personal and creative uses of writing had little place in the high school curriculum, occupying less than one half of one percent of lesson time.

Homework assignments were similar. Of 118 assignments which we observed being given, only 3 percent asked for writing of at least paragraph length. The remainder were divided equally between "read and study" assignments, and mechanical uses of writing.

Differences between schools and grade levels in the use of these activities were slight; they are summarized in full in supplementary table 3, appendix 1. Subject-area differences were larger and are summarized in table 7.

In the academic subject areas, writing-related activities were used most in mathematics, science, and social science classes, and least in foreign language and English. In math, these activities primarily involved calculations; in science, they were usually short-

Table 7

Mean Percent of Lesson Time Involving Writing Activities

	Subject							Grade	
	English n=56	Foreign Language n=36	Math n=37	Science n=38	Social Science n=38	Business n=17	Other n=23	Ninth n=114	Eleventh n=145
Activity									
Mechanical	16.1	15.4	47.6	25.4	12.3	31.5	10.4	25.1	22.8
Informational									
Note-taking	15.1	5.5	16.6	22.6	39.1	9.5	4.6	15.3	17.5
Other	8.3	0.5	0.0	0.0	5.1	2.0	0.0	3.7	2.3
Personal or Imaginative	1.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.8
Any Uses of Writing	41.1	21.5	64.2	48.1	56.4	43.0	15.0	44.1	43.3

Multivariate Analysis of Variance

				Univariate F-Statistics			
					Informational		
Effect	lambda	df	F-Statistic	Mechanical	Note-taking	Other	Personal or Imaginative
School	.98	3; 183	1.23	2.59	2.05	0.50	2.73
Grade	.98	3; 183	1.05	0.49	2.07	1.39	2.33
Subject	.66	12; 484	6.93***	8.69***	7.25***	4.49**	2.21
School x Grade	.98	3; 183	1.30	1.31	1.62	0.36	2.71
School x Subject	.89	12; 484	1.75*	1.49	2.43*	2.18	2.19
Grade x Subject	.89	12; 484	1.89*	2.24	2.85*	1.20	2.35
School x Grade x Subject	.90	12; 484	1.72	1.48	4.24**	0.36	2.15

* $p < .05$
** $p < .01$
** $p < .001$

answer (one or two sentence) responses to study sheets, often in the context of laboratory work. In grade 11, the science classes involved a considerable proportion of calculations as well. Social science classes, particularly in the city high school, also made considerable use of short-answer, fill-in-the-blank, and multiple-choice exercises.

If we look instead at lesson time devoted to more extended writing (at least paragraph length), we find this occurred primarily in English classes (averaging 10 percent of lesson time); writing was also observed in social science classes, and to a lesser extent in foreign language, business education, and special education classes.

Note-taking also varied significantly with subject area. At one extreme, students in social science classes were observed taking notes some 39 percent of the time; at the other, students in foreign language classes took notes less than 6 percent of the time, and in special education classes they did not take them at all (supplementary table 3, appendix 1). (These figures reflect class time when any student was taking notes.)

When asked about writing activities in their classes, students' descriptions paralleled observers' reports (table 8). Informational uses of writing, including note-taking, were by far the most prevalent tasks; imaginative uses were limited for the most part to English--and even there were reported by less than half of the students. (Personal uses of writing were not reported at all.) Interestingly, when asked a general question about the "writing" they did for their classes. well over a third of the students listed various sorts of mechanical writing activities as part of their responses. This suggests that the broad definition of writing adopted for the purposes of our research may be closer to an accepted use than we had originally thought. Teachers'

Table 8
Types of Writing Reported by Students

Type of Writing	Percent of Students Reporting					
	English n=42	Foreign Language n=31	Math n=39	Science n=32	Social Science n=32	Business Education n=13
Mechanical	19.0	32.3	76.9	31.3	31.3	53.8
Informational						
Note-taking	38.1	51.6	74.4	74.2[1]	75.0	53.8
Other	92.9	67.7	0.0	71.9	87.5	53.8
Imaginative	42.9	16.7[2]	0.0	0.0	0.0	7.7

[1] n=31

[2] n=30

comments occasionally left us with the same impression, as when we were told that a class was "full of writing" and discovered that what was meant was writing one-sentence answers to study questions. Similarly, we observed an essay test which asked the students to write "The Star Spangled Banner," and social science "writing" assignments involving copying out whole sections of the text.

National Survey

Teachers completing the questionnaire for the national survey were asked to indicate the extent to which they made use of specific writing activities with the class on which they were reporting, for tests, class work, or homework. Each activity was rated as "not used with this class," "used occasionally," or "used frequently." Table 9 summarizes the results.

As in the observational studies, teachers in all of the subject areas surveyed indicated that they made frequent use of at least some writing activities, taking writing in the broad sense. These activities were dominated by note-taking and short-answer responses (requiring at most a few sentences per question), however; paragraph-length writing was reported as a frequent activity for only 27 percent of the classes at grade nine, and 36 percent at grade eleven. English, by a very wide margin, was most likely to require such writing; mathematics, least likely. The use of all 7 activities sampled differed significantly among the six subject areas. Activities requiring only short-answer responses tended to be used less frequently, and paragraph length writing more frequently, in grade eleven than in grade nine. Mathematical calculations and proofs also increased between grades nine and eleven, in part because of their increasing use in science as well as mathematics classes at the upper grades.

Table 9
Use of Writing-Related Activities

Activity	Percent of Teachers Reporting Frequent Use: Subject Area						Percent of Teachers Reporting Frequent Use: Grade		Chi-square tests[1]	
	English n=142	Foreign Language n=103	Math n=143	Science n=135	Social Science n=113	Business n=107	Ninth n=378	Eleventh n=352	Subject df=10	Grade df=2
Multiple-choice or fill-in-the-blank	22.5	24.3	9.1	51.1	55.8	32.7	31.2	32.4	122.0***	0.99
Note-taking	51.4	37.9	49.0	68.9	67.3	28.0	49.5	54.8	68.88***	3.42
Copying, dictation, or translation	12.0	70.9	18.2	20.7	14.2	35.5	28.0	24.1	153.00***	1.50
Calculations	2.8	1.0	99.3	43.7	2.7	47.7	29.9	40.6	587.30***	17.61***
Short-answer	50.0	65.0	16.8	55.6	51.8[2]	29.9	48.5[3]	39.8	122.80***	7.70*
Proofs	4.2	0.0	38.5	17.8	1.8[2]	19.6	8.7[3]	20.7	263.02***	21.31***
Paragraph-length writing	82.4	26.2	1.4	14.8	36.3	15.9	26.5	35.5	436.00***	7.04*

Multivariate Analysis of Variance

Effect	Lambda	df	F-Statistic
Subject	0.14	35;2964	50.26***
Grade	0.94	7;704	6.02***
Interaction	0.83	35;2964	3.76***

[1]Chi-square tests are based on three point scales: not used, used occasionally, used frequently.

* $p < .05$
** $p < .01$
*** $p < .001$

[2]n=114 [3]n=379

The six subject areas studied differ not only in the extent to which they make use of writing of at least paragraph length, but also in the type of writing they assign when they do make such assignments. Tables 10 and 11 summarize the relevant results, both from teacher reports and from the writing samples that they supplied. (Since teachers were asked to supply 2 samples, separate tests of grade and subject differences were calculated for the "good" and the "poor" papers.)

The categories record through theory in figure 1 represent a scale of levels of abstraction. The record of ongoing experience is at the lowest end of the scale, and involves a relatively direct recoding from experience into words--the kind of following-the-action that occurs, for example, in a radio broadcast of a sporting event. This is a relatively rare form in writing, and was not included in the categories on the teacher questionnaire. As expected, less than 1 percent of the writing samples fell into this category. The following example is typical of such writing, in its present tense presentation and moment-by-moment narrative organization:

> Suddenly the top of the tree starts to break up and fall. The guy is terrified and very confused. The top of the tree is swaying wildly like a kite in the wind. It's meraculous that it hasn't fallen yet. He is despertly tring to get down but the tree is like a pendulum on a clock. Finally he is descending. The tree starts to break. The top of the tree is coming right down on top of him. It looks like he's going to be killed. The tree grabs him and pins him 30 feet in the air. He staggers to his feet almost falling on to the ground below. He gathers gathers a little strength and begins chopping some branches off. He climbs down on the stubs of the branches. The ground welcomes him as he reaches it. (ninth grade English)

The report on particular events also remains quite close to immediate experience, though it is recalled experience retrospectively

Table 10
Writing of at Least Paragraph Length

Type of Writing	Percent of Teachers Reporting Frequent Use								Chi-square tests[1]	
	Subject Area						Grade			
	English n=139	Foreign Language n=65	Math n=19	Science n=84	Social Science n=95	Business n=49	Ninth n=215	Eleventh n=227	Subject df=10	Grade df=2
Informational										
Report	24.0	7.7	0.0	35.6	29.8	2.9	20.9	26.0	113.37***	2.71
Summary	12.2	9.2	15.8	44.0	20.0	12.2	16.3	23.3	89.71***	4.73
Analysis	41.7	6.2	15.8	42.9	49.5	14.3	30.7	39.2	117.50***	3.51
Theory	20.9	3.1	52.6	41.7	16.8	6.1	14.0	29.1	119.12***	16.54***
Personal	25.9	18.5	0.0	7.1	3.2	18.4	14.0	15.4	99.34***	1.02
Imaginative	34.5	21.5	0.0	0.0	1.1	2.0	14.4	13.2	178.14***	2.93
Other	11.5	15.4	0.0	6.0	1.1	20.4	8.8	9.3	41.72***	0.10

Multivariate Analysis of Variance

Effect	Lambda	df	F-Statistic
Subject	0.31	35; 1761	16.31***
Grade	0.92	7; 418	4.98***
Interaction	0.88	35; 1761	1.54*

* $p < .05$
** $p < .01$
*** $p < .001$

[1] Chi-square tests are based on three-point scales: not used, used occasionally, used frequently

Table 11
Writing Samples: Types of Writing Represented

	Percent of Papers					
	Subject Area				Grade	
Informational	English n=182	Science n=70	Social Science n=67	Business n=24	Ninth n=182	Eleventh n=167
Record	1.0	0.0	1.5	0.0	1.6	0.0
Report	19.2	15.7	17.9	37.5	22.5	17.4
Summary	13.2	47.1	22.4	16.7	25.8	18.6
Analysis	39.0	32.9	44.8	33.3	31.9	45.5
Theory	2.2	2.9	4.5	0.0	1.6	4.2
Persuasive	0.5	0.0	3.0	4.2	1.1	1.2
Personal	8.8	1.4	6.0	8.3	7.1	6.0
Imaginative						
Stories	12.1	0.0	0.0	0.0	6.0	5.4
Poems	3.8	0.0	0.0	0.0	2.2	1.8

Chi-square (subject area), df=12, good papers=42.99, $p < .001$, poor papers=25.35, $p < .01$. (For the chi-square tests, related function categories were collapsed to raise expected frequencies.)

Chi-square (grade), df=5, good papers=5.89, $p < .21$, poor papers=6.89, $p < .14$

described. This was used most frequently by the science teachers who assign writing, and was cited in frequent use by 30 percent of the social science and 24 percent of the English teachers as well. In the writing samples, repor occurred about 20 percent of the time, and was used fairly evenly by the various subject areas.

The following samples illustrate some of the ways reporting tasks were used in different subject areas:

The Hunch Back of Notre Dame

> The story begins on the side steps of the Notre Dame Cathedral in Paris in the year fourteen hundred and forty-eight years six month and nineteen day. That historic day that the boy Quasimodo or Hunchback or to the religious people Beelezebub was found by the Monk Claude Frollo.
>
> After caring for Quasimodo in his own room Claude Frollo made him a room in the cellar of the cathedral. Though he was an extremely ugly creature Claude Frollo was very fond of him and he was a great source of joy to him. You see Quasimodo was born this way: he had a tetrahedron nose, horse-shoe mouth, a little left eye stubbled up with an eye-brow of carroty bristles, while the right eye was completely overwhelmed and buried by an enormous wen. He had jagged teeth like an elephant which were covered by a horny lip. He had a fork chin, & his head was covered with a kind of red bristels. Between his shoulders rose an enormous hump, which was counter-balanced by a protuberance in front. His thighs and legs were so strangely put together that they touched at no one point but the knees. His feet were immense, his hands monstrous. . . .
>
> Realizing what he had done and the futility of it all, Quasimodo wiped one last tear from his tear-stained eye and departed from the bell-tower by jumping off. (ninth grade French)

What I Saw at the Nuclear Reactor

> At the Nuclear Reactor, I saw a lot of things that looked very unusual to me. I got to use the machine that shows if you have been exposed to radiation. Our tour guide took us to the room that contained the reactor. It was really neat. The reactor had blue water in the top. Then we went downstairs where we saw a window like place. Inside was a robot arm that you could control. The robot arm is used from the outside of the window for handling radio-active materials that is too dangerous for humans to handle. Our tour guide had on a film badge on his shirt,

> finger-n-wrist. Our tour guide told us that police could bring them hair from a person, who might have committed a crime and the people at the nuclear reactor could tell the police who the person was. Its like the procedure used for fingerprints. (ninth grade Science)

A White Ball of Fur

> About a month ago, my mama brought home a little ball of fur. It's name is Pete and he cost a hundred and twenty-five dollars. He's so cute. He's got little brown eyes and soft white fur. He is so mean though. He tears up our slippers and shoes, and he nips at our heels when we walk. He's also very smart, he can open doors and climb shelves and he can get on the sofa. Pete's very curious, he like to play with the basketball, so when he see's a basketball game on T.V., he tries to get the basketball. He also wants to get that cat on the Good Mews commercial. (ninth grade English)

The first two of these examples are very typical of writing at the level of report. Like the record of ongoing experience, they rely heavily on narrative sequence for their organization, but they shift to the past tense and recount far less of the moment-by-moment detail. The third writing sample, "A White Ball of Fur," begins to shift from a report about the specific tricks of a new puppy toward a summary of the puppy's characteristics--"he nips at our heels" and "he can open doors."

Summary, based on a pattern of recurring events, represents a step up the level of abstraction; here the writer generalizes from particular events in order to draw conclusions about "how Pete behaves. . .," "what happens when. . .," or "how one goes about...." These generalizations remain very close to the experiences in which they are based, however, and usually continue to rely on narrative sequence for their structure and organization. On the questionnaire, science and social science teachers were most likely to make frequent use of assignments of this sort. When the writing samples that they supplied

were classified according to type, summary represented just over a fifth of the writing in the social sciences, and nearly half of that from science classes. Typically, it described steps in a process or procedure, as in the following examples:

Describe how an unstable atomic nucleus becomes stable.

> When the isotope is radioactive, one of the nuclei throws an alpha particle. This then decreases both atomic mass & number. Then if the next element formed is also radioactive and may give off a beta particle which then causes an increase in the atomic number. This process continues until a stable element is formed. (ninth grade Earth Science)

Explain the technique used to separate two compounds by chromatography.

> You have two liquids and must heat them sufficiently to boil the lower liquid's point. The liquid turns to vapor and you have some type of tube system that takes the vapors to a new chamber to condense, then boil them, as you do this over and over your amount of liquid grows smaller, and so does your increase in % of gain. This is why pure substances are so expensive. (12th grade Chemistry)

> Building a window frame can be a hard job. The first step in building a window frame is getting the right supplies. Wood and nails are the two supplies needed. First you cut out the wood. Then you take the pieces and put them in the order they should be put together. When getting pieces of wood in order take small finishing nails and nail frame together. Finally get piece of glass and slide in frame and make secure and your job is through. (ninth grade English)

> To solve one type of quadratic equation you must first simplify both sides. After this is done get all of the terms on one side. The next step is to factor and set each answer to "x". Another type of quadratic equation is one that cannot be factored. A formula (x = -b b2 - 4ac) is used to solve this. The value before the "x2" and its sign become a, the value before the "x" and it's sign become b, and the last value and its sign become c. Next, you plug a,b, and c into the problem and solve it as usual. (ninth grade Algebra)

It is typical of such summaries that they read very authoritatively; this is the way it is to be done. It is also typical

that they make little attempt to explain why a particular set of steps or procedures is effective; there is little explanation of the underlying processes or motivation.

When the writer begins to attempt to explain these processes, the writing moves toward analysis, the next level of abstraction. Analysis involves classification and categorization of the phenomenon being examined, making use of hierarchical relationships and logical connections among generalizations to explain what is happening. Writing of this sort was the most frequent type of school writing, both in teacher reports and in the samples they supplied. It was less likely to be reported in frequent use among the business education, mathematics, and foreign language teachers. The following examples illustrate the sorts of tasks being undertaken:

Summer:

> The reason I think summer is hear is that I see the birds nesting and all the baby animals are out anouther reason is that it is getting warm out and the lakes are warming up and all the trees bushes and grass is turning green. Plus I know summer is hear because of the thunderstorms and bad weather that is being thrown at us. but on nice day all the people go to the beach and to lake michigan to get a tan. all the fruits are becoming ripe and need picking and the farmers are bailing hay so that young people can get a job. (eleventh grade English)

> 1.a Generally, as the temperature increases so does the reaction. This situation was observed when magnesium ribbon was placed in three different temperatures of water. The hotter the water, the more quickly the magnesium reacted. (eleventh grade Chemistry)

Martin Eden

> Martin's individual success was empty and lacking in conviction because he really wasn't accomplishing anything for himself. Instead he did it all for the woman he loved. However, some of his accomplishments were for personal gain.
>
> The girl Martin Eden was in love with was rather wealthy and also a college graduate. Martin, on the other hand, had very little education and was rather a poor sailor.

After Martin met her, he immediately became infactuated with her. He also realized that if he was going to get anywhere with her he would have to change and change drastically.

He started taking baths and stopped drinking. He also started to read alot of literature and also started to write. He even rented a typewriter.

Martin was soon able to talk the way she talked which was also a goal he had set for himself.

In time both Ruth and Martin fell in love with each other. However, it didn't last long. Ruth's parents stoped it very quickly because they didn't feel Martin was worthy of their daughter.

Martin only became more determined after his rejection. He soon became a highly respected and well-paid author. Ruth found this out and went back to him but only for his money. Martin soon found this out and killed himself. However, he did not kill himself just because of Ruth. He had other problems also. One of Martin's other problems was his struggle against the bourgeois society.

As you can see Martin's main reason for living was Ruth, and when he lost her, he couldn't handle it. Anybody with conviction and dedication to his proffession would have been able to handle the situation better than Martin did. (ninth grade English)

Conspiracy

Conspiracy: an agreement between 2 or more people or parties to commit an unlawful or to accomplish a lawful end by unlawful means. There are many reasons this would be done. Although we know little about the Pontiac Conspiracy, we know that he, a great indian, conspired with other indian tribes to prevent U.S. Army attack. I really don't see why this is a conspiracy because it was all for lawful means. Assasination of a President you would figure to be a conspiracy also. The assasination of Lincoln was a conspiracy. The assasination of Garfield wasn't because the assasin, Guiteau, didn't conspire with anyone. He shot the president because he was refused an office spot in Washington and to help things along he was insane. Alger Hiss vs. Whittaker Chambers case was a conspiracy. Alger Hiss was accoused by Chambers of giving confidential material to USSR. Although accoused and proven guilty to this date Hiss still states he is inocent. The Kennedy assination really can't be said if or not it was a conspiracy. Some people say only one person shot at and hit Kennedy but some say one of two people shot.

> In eather case it could or couldn't be a conspiracy. Watergate was a conspiracy. The Republicans had the phones taped so they could gain in the upcoming election. Arron Burr was a conspiracy. It seems he was conspiring against the government. He wanted to take over the land West of the Appl. Mts. To do this he needed an army so he conspired with the British government. His plans were shot when his close associate told on him.
>
> All of the above examples show examples of conspiracy. Wheather or not proven guilty or not considered a conspiracy all these acts were acts against the government or government official. (eleventh grade American History)

Theorizing in a systematic way, including making hypotheses and drawing deductions from them, represented the highest level of abstraction in the various types of writing. Although a substantial proportion of the teachers reported "frequently" asking students to write at this level of abstraction, the writing that resulted rarely moved beyond analysis. Only 3 percent of the samples were categorized as theorizing. The speculations about the future embedded in the following paper represent one kind of writing that falls into this category:

> "Go West, young man, go West"; such was the cry encouraging ambitious Americans to forge westward in search of exciting prosperity. Our society today regards the pioneers as heroes because of their brave spirit, yet many people have no conception of the hardships they faced and the obstacles they overcame.
>
> I had the privilege to experience some of the escapades of a pioneer when my American History class (after six months of preparation), went on a six-day wagon trek across the desert. I acquired an immense admiration and appreciation for those courageous Americans who crossed the plains in covered wagons. My wonderment of the pioneers and the life they led was interrupted by my curiosity of how future generations would relate to the people of the present era. Perhaps a century from now, a history class studying the current period would take a "car caravan" across the country in order to better understand our way of life.
>
> Wagon Travel involved many perils and risks. Indians were a major problem, along with rugged virgin trails and the complications with beasts of burden. Today's mode of transportation

seems unchallenging when compared with that of the pioneers. Twenty-first century travel may view our highway travel as dangerous because of such factors as engine failure and human error in driving. Space-age travel will be somewhat devoid of hazardous venture because of machine-regulated safety.

By 2080, cars will be obsolete, and the distance "from sea to shining sea" will be considereda mere excursion. Highly technological spacecraft will replace our automobiles, just as horse and wagon were superceded by motor vehicles. For the entirety of our travels, we existed (quite comfortably) without modern conveniences including watches, radios, and televisions. Students embarking on an auto expedition a hundred years from now might find they must leave behind their pocket computers or other devices from a Ray Bradbury story. Technology is an important factor when contrasting the present with the past and future.

The greatest enrichment of this trip was the harmony which I felt with nature. Out there in the desert, distant from any form of civilization, one is better able to understand Thoreau's philosophy of natural simplicity. Future generations living in the next century may have no contact with planetary nature. A green patch of grass in the median of a highway may be the only touch with nature space age citizens might have. This small piece of the earth in its original state may be inspiring to future citizens just as I was engulfed in the beauty of the mountains and the desert. What a shame that this may be the outcome of technological society!

The wagon trip was a great learning experience due to the authenticity of the project. I was prompted to contemplate the comparisons between the three different epochs in the areas of the courageous spirit, technology and nature. My inquisitiveness remains about how my great-great-grandchildren will view the history of my generation. Most importantly, I discovered that in order to understand better the world of the present, one must consider both the past and the future. (eleventh grade American History)

A more formal use of hypotheses and deductions from them is evident in the excerpts below, drawn from a 16-page typewritten report:

I have 3 generationa of cats which will be the basis of my problem. I am attempting to determine how the F1 and F2 generations inherited their coat colors and also determine the parents' phenotypes and genotypes. I am dealing with dominant and recessive genes, genes that are neither dominant or recessive to each other, and sex-linked genes.

My hypotheses were that the yillow tabby tom cat was the father of the first litter of the F1 generation, and the F2 generation; and that the grey tabby ton cat was the father of the 2nd and 3rd litters of the F1 generation.

My research has shown that by the way the genes were inherited, these most likely were the correct fathers. . . .

SUMMARY

The gene for Orange is sex-linked and is carried on the X chromosome. An orange male crossed with a non-orange female. The results were tortoiseshell females and a non-orange male. Males can only receive either a dominant gene or a recessive, not both. That is why there are no tortoiseshell because it takes both to make a tortoiseshell.

This same male then crosses with one of its tortoiseshell daughters. The results were one orange male and one tortoiseshell female.

This male was also a tabby. Veet was a non-tabby. The results were 3 non-tabbies and one hybrid tabby. They didn't come out the way they were supposed to but it could've been because of certain reasons.

Again this male also crossed with his daughter-a non-tabby. Their offspring were one hybrid tabby and one non-tabby and these were the way they were supposed to be.

Tabby and black are neither dominant or recessive to each other. A hybrid black female crossed with a hybrid tabby male. The results are 3 hybrid tabbies and 2 hybrid blacks. Whether you are comparing tabby to non-tabby or black to non-black, the offspring were pretty close to what they should be.

In this study I did prove my hypotheses that Tom, the yellow tabby was the father of the first litter of the F1 and the F2; and that the grey tabby was the father of the 2nd and 3rd litters of the F1 generation. . . . (eleventh grade Biology)

Persuasive writing, where the attempt to sell a particular point of view overrides all other concerns, was not included as a separate item on the teacher questionnaire, and represented only about 1 percent of the writing in the samples teachers supplied. One form in which it appears in school work is in mock advertisements; another is in political contexts, as in the following paper:

The Change in Economy

Another election year is here, and Carter is taking the honors. But why? Because of the Iranian situation or because he has helped our economy over the past 4 years.

> Well, maybe the change in the economy is so slow that we don't realize how downhill things are going.
>
> In the past Carter term this is how things have gone down hill: the cost of living is up 31%, and the people's incomes are only up 7.3%.
>
> The dollar's value has gone down 18.7% and who are getting these profits: the corporations. Their profits are up 63.1%!
>
> Well, Carter hasn't been all bad the unemployment is down 23.4%. But should Carter get the credit for it. And should Carter get the blame for our economic position? Well, maybe if Carter gets out of office then we'll see what the other man can do. (ninth grade Business Education)

Personal and imaginative writing, though popular among English and foreign language teachers, were rarely reported in frequent use in other subject areas. This was borne out in the writing samples, where informational writing represented 85 percent of the sample, and all other types of writing 15 percent. Even in English classes, only about a quarter of the writing samples represented personal or imaginative uses of language.

When personal writing did occur, it sometimes took the form of "friendly letters" to relatives or classmates--albeit sometimes in artificial contexts. An assignment on "The Value of a Yearbook" produced one such piece:

> Laramy, Wyoming 50213
> September 25, 1980
>
> Dear Vicky,
>
> Howdy! How's life up in the Alaskan boonies? It's just beautiful here in Wyoming. The sun shines every day and the nights are cool and calm. It's really a much more beautiful state than I ever would have imagined.
>
> You know, I really miss all my friends up there. Are they all changing? Boy, I'm glad I bought a yearbook! At first I thought it was just a fad. I thought people only bought them to be "in" To be perfectly honest, that's why I bought mine! But now, as I look back at the faces and the names, I can remember all the fun times I had at service.
>
> I almost didn't buy a yearbook because I thought, "Well,

I'm just a freshman. It's really nct too important. I mean, I'll be here for three more years." But my views about that changed when I found out we were moving to Wyoming.

When I first moved here I would look through my yearbook at the pictures and the things people wrote to me and I would have a "sob session." But now I realize that it's good to remember people and the influence they had on my life. I should remember what I liked in them and try to develop those characteristics in myself. Yes, my yearbook has really become one of my most dearly treasured possessions.

I guess I'd best close now; it's getting late. Say "Hi" to Laur, Whit, and Susan for me. And please write back soon.

Love,
Becky (ninth grade English)

Personal writing also occurs at times in "loosening up" exercises, which can be used either to get students around the fear of writing at all or as raw material out of which more polished material can later be shaped:

I'm thinking about how stupid these people act when ask to do something and I think it is dumb because they talk about everything epesically Cariloyn, Becky & Tammy. Shhhhh!!!! I can't concetrate.

10 min sure is a long time I wonder if it is over yet, I doubt it because I still wound'nt be writing if the 10 min. was up, so I guess it is not up so I will keep on writing till I'm trough.

I'm thinking about what I'm am going to do tonight like (go out and drink refer and smoke beer).

I'm thinking about our new house that we are going to move into tonight on Jan. 25. I like the house because it is sharp.

What I am doing now is not usually because I have to write speeches all the time for drama class, I have been in it for 3 years.

I wish I were at home with a coke and some sort of a snack and watching t.v.

This is all right writing about what you are doing. I just thinging about what Becky said "Dennis you creep."

I'm thinking about how much longer I have to write which is about 1 min. I don't know what else to write except that this class is about to end and I hope Bill Sorrells has brought that paper I need for single living and if he didn't I think I'll cuss him out and then cut his head and then pull his toes off and cut his legs off and then I might get mad. (eleventh grade English)

Although the use of all of the types of writing investigated differed significantly between subject areas, only theorizing showed significant grade level differences; the percent of teachers claiming to assign such writing frequently rose from 14 to 29 percent between grades nine and eleven. With the writing samples supplied by the teachers, the overall effect of grade level on type of writing was not significant for either the better papers or the poorer ones. Considering just the categories record through theory, however, a significantly higher proportion of grade eleven than grade nine papers were categorized as analysis or theory ($p < .02$ for both the better and the poorer papers). Together with the teachers' reports, this suggests that the level of abstraction of informational writing increases in the upper grades.

Since teachers were asked to select papers representing either the top quarter or bottom quarter of those produced in response to a particular assignment, it was also possible to examine the relationship of student ability to the type of writing produced. Here there was a tendency for those papers chosen as better by the teachers to involve analysis or theorizing (49.3 percent, compared with 34.4 percent of those selected as poorer writing). (Considering just the categories record through theory, the better papers were significantly more likely to involve analysis or theorizing, chi-square for correlated proportions = 8.8, $df = 1$, $p < .01$.)

AUDIENCES FOR STUDENT WORK

Every piece of writing is shaped not only by its function (or use), but also by a conception of the audience to whom it is addressed (Mead, 1934; Eco, 1979). Audience affects virtually every aspect of language use, including syntax, diction, length, level of abstraction, and

method of organization (Bracewell, Scardamelia, and Bereiter, 1978; Crowhurst and Piche, 1979; Rubin and Piche, 1979).

In the present study, audiences for student writing were categorized simply: no clear audience; only the writer (as in private diary writing); the teacher, to grade or assess the work; the teacher, as part of an on-going instructional dialogue; and wider audience, known or unknown. Again, this is an adaptation of a set of audience categories proposed by Britton, et al. (1975), simplified for our purposes.

As with function, each writing sample was scored for audience by three raters working independently, and a "verdict" was based on agreement by at least two out of three. (A copy of the scoring guides is included in appendix 5.) Interrater reliability estimated from rescoring of 82 papers by a second team of raters was .71. In the sample as a whole, individual raters agreed with the final verdict 77 percent of the time.

Analysis of audiences for student writing focused on writing of at least paragraph length. In the 33 writing episodes that were seen in the observational studies, the audience was clearly the teacher, with the expectation that the work would be graded and evaluated. Too few writing episodes were observed to draw useful conclusions about similarities or differences between grade levels or subject areas.

The questionnaire used in the national survey had a list of people who might read student writing, each to be rated as "never," "sometimes," or "regularly" reading writing from the class. Table 12 summarizes the results for teachers who regularly used writing of at least paragraph length for homework, classwork, or tests of progress. (Teachers who assigned writing only on the final exam were instructed to skip this section of the questionnaire.)

Table 12
Audiences Regularly Provided for Student Writing

	Percent of Teachers Reporting								Chi-square test[1]	
	Subject Area						Grade			
Audience	English n=140	Foreign Language n=70	Math n=17	Science n=89	Social Science n=100	Business n=57	Ninth n=224	Eleventh n=237	Subject df=10	Grade df=2
Only the student	7.1	7.1	23.5	18.0	17.0	8.8	8.9	14.3	22.07*	3.27
Teacher, to react without assigning grade	15.0	8.6	17.6	4.5	9.0	22.8	14.3	10.1	24.68**	2.86
Teacher, to grade without other comment	6.4	12.9	11.8	16.9	15.0	12.3	12.1	12.2	26.75**	0.45
Teacher, to react and grade	77.1	68.6	44.4[2]	80.9	75.0	68.4	72.0[3]	76.4	18.53*	1.43
Other students	16.4	7.1	5.9	1.1	3.0	5.3	5.8	9.7	58.75***	8.6 *
Other	3.6	5.7	0.0	2.2	1.0	5.3	4.5	1.7	15.99	4.13

Multivariate Analysis of Variance

Effect	Lambda	df	F-Statistic
Subject	.76	30; 1758	4.13***
Grade	.99	6; 439	1.09
Interaction	.95	30; 1758	0.81

* $p < .05$
** $p < .01$
***$p < .001$

[2] n=18

[3] n=225

[1] Chi-square tests are based on three-point scales: never, sometimes, regularly.

Clearly, the teacher in the role of judge or examiner is the prime audience for student writing, in all subject areas. Fewer than 10 percent of the teachers reported that student writing was regularly read by other students; even in English classes, only 16 percent of the teachers reported such audiences. A slightly higher proportion reported some use of writing that was read only by the student; such uses were concentrated in mathematics, science, and social science classes. The vast majority of teachers reported that they regularly read student work to both assign a grade and make other comments.

The writing samples supplied by many of the teachers show the same overall pattern (table 13). Fully 88 percent of the samples were categorized as addressed to the teacher as the primary audience; only a third were written as part of a teaching-learning dialogue, rather than as a display of completed learning. (None of the samples had the writer as his or her own primary audience, but that was to be expected in a context where the teacher is providing samples of students' work.)

Writing as part of a teacher-learner dialogue (where the student could expect a response to ideas in progress of development rather than evaluation of completed learning) was more likely in English and the social sciences than in science or business education. When it did occur, it often centered around personal experiences or opinions that cannot easily be treated as tests of content-area learning (though such writing can be given as a test of writing skills). The following examples, both from English classes, are typical:

Table 13
Writing Samples: Audience Addressed

	Percent of Papers					
	Subject Area				Grade	
	English n=182	Science n=69	Social Science n=67	Business n=22	Ninth n=181	Eleventh n=164
Teacher, as part of teacher-learner dialogue	42.9	15.9	35.8	4.5	33.7	33.5
Teacher, as examiner	47.8	66.7	58.2	54.5	56.4	52.4
Wider audience, known or unknown	9.3	17.4	6.0	40.9	9.9	14.0

Chi-square (subject area), df=6 Good papers=16.18, $p < .01$
Poor papers=39.44, $p < .001$

Chi-square (grade), df=2 Good papers=0.31, nsd
Poor papers=0.04, nsd

New Outlooks

> The first thing I think about when I look back on my younger years in Grand Forks is the summertime fragrances of our backyard apple trees in bloom. My girlfriend, Erica, and I used to spend all of the heated, humid days in the shade of the big apple tree in my backyard. The life moves so much slower here. I never really appreciated the slower-moving ways of the people who live in my hometown of Grand Forks, ND until I went away one summer for a month to San Francisco, California. The excitement there is chilling, in a way, and no one <u>really</u> knows anyone else. You're kind of a number. When my plane landed back in Grand Forks, I wasn't <u>glad</u> to be home because I've always hated going "home," but I was relieved, in a way. This town felt very reassuring in many ways. I remember how all the memories of those backyard-summer days and the Saturday afternoon shopping sprees downtown came flooding back to me. I laughed a little to myself as I think back on how much trouble Erica and I got in when we got caught playing on the bike trails in Lincoln Park by the river. We had such a good time catching butterflies down in the weedy patches by the river shore and daring each other to go in the water even though we both knew how dangerous and deceiving that twisting, churning undercurrent of the Red River of the North was. The good times by that river were endless until the day we got caught by my dad and each of us got grounded for a week!! I've never seen my father so upset!
>
> He's gone now--the good times are gone too, mostly, but what remains in my memory will never go away. (eleventh grade English)

This Class

> Some of the kids in the class are craze but I don't think I could make it threw the day without them. They make you laugh even when your down and they seem to make the day go fast.
>
> I think I've learn a lot in this class even if I can't do all the work but I try and that what I think counts.
>
> I like to do these writting assiments because I even like to now what I'm going to write about and have to say about it. Class have there ups and down and I think most of are up because of the thing we do like the books we read the assiments we have. (eleventh grade English)

Sometimes students move into a teacher-learner dialogue even when faced with an assignment which is designed to test their knowledge of a topic. Something of the sort happens in the following example, which begins as a test of whether the student has read <u>Future Shock</u> and understood the concepts of "serial marriage" and "marriage trajectory," but moves on to explore some more personal reactions:

According to Alvin Toffler, "until death do us part" will soon become non-existent. With the accelerated rate of change in society, the conventional marriage bears very little chance of being successful. People will become "more frenzied" in their search for love and therefore get married. As their life progresses, and goes through the various stages, their expectations and what they want from a marriage changes. This is where according to Toffler, serial marriages come in. These are successive temporary marriages which can be left behind at the individual's wishes. In Future Shock, Toffler indicates that these serial marriages are already in effect. Cohabitation is considered in this category because it is actually a sort of probationary marriage. This will be one of several stages of the marriage career or trajectory. The trajectory will include several critical points where a change in lifestyle is made. Serial marriages are not the only solution, according to the book. Careers can be the primary concern, with marriage taking place after retirement. Perhaps this will increase the chances of "until death do us part" actually happening.

I don't believe any of these things will happen at least not to such an extreme. Succesive marriages do occur through divorce and remarriage, but as yet, they are still not fully accepted as the norm. I believe that if there is any change in the institution of marriage, it will be for the better. As society changes people will look for one individual to center their life around. Their spouse will become a sort of security blanket, and this will help couples appreciate each other more. (eleventh grade Social Science)

Over half of the samples seemed directed to the teacher as examiner. One of the paradoxes involved in such writing is that writing for this audience requires less writing skill than virtually any other audience. Because teachers know what information they are looking for, they can make the transitions and connections necessary to make the writing coherent, reading what the student "meant to say"--but in fact did not. Sarah, one of the eleventh graders interviewed, pointed out how oddly formed writing to the teacher-as-examiner may sometimes be. Talking about a social studies test, she says:

> Normally it will be a compare essay where we're supposed to compare two periods with several different things. I don't write an introduction to these, 'cause I rarely have the time. So I'll just go in and I'll show the differences in very short paragraphs. For everything, for every topic that he gave us, I'll show the differences and if I have time I'll add a little conclusion at the end which will tell what I really think.

A science teacher at the same school explained that such an approach matches teachers' expectations: "If they get the content, and it's organized, I know what they are trying to say, then they get their credit." The following samples show something of the range of writing that occurs in this category.

> But for every enemy that these acts made for the President in Wall Street or in the business lobbies at Washington, he was described as carrying a big stick and was named the trust buster. (eleventh grade American History)

> He graduated from Harvard in 1880, and then spent 2 years on a ranch in North Dakota to build up his health. He served in the N.Y. State legislature, on the National Civil Service Commission, and as president of the police board in N.T.C. In 1897, he was appointed to Assistant Secretary of the Navy. He soon resigned, however, to help organize the "Rough Riders" in the Spanish war. He was elected governor of N.Y. (1898), Vice President (1900) and he bacame president upon McKinley's death (1901). (eleventh grade American History)

> Discuss the irony in "Solo on the Drums," giving specific illustrations.

> The irony in Solo on the Drums is that the drummer is a famous guy and most famous guys have girls hanging on him.

> Another ironic thing is the a member of the band, a Marquis of Brund, has taken his girl away from him. In a way it seems he still respects the guy because he talks of how he plays such a sweet piano. (eleventh grade English)

> The Yankee's previous opinion of the king was that he was no more than a lummox. He held this thought until in the poxhouse the King carried a dying girl to her mother. The Yankee then saw him as heroic.

> As they were peregrinating, the Yankee decided that the king's palliation was that he was harmless, however proud he was. For example, as they were being sold, the Yankee had to assuage Arthur, who was demurring that he was the King. The Yankee's action was neither pusillanimous or ignominous, but necessary to prevent them from getting into trouble.

> The cul-de-sac, Arthur, has a porlous start because of the fact that he is the King. However, on the road with the Yankee, he is no more than a peasant, and learns the hard life of the poor.

> At the gallows in London, the King was about to be hung. The Yankee realized then how he felt about the king, and dropped his aspereties concerning the king, who had obviously changed as a result of the journey, and replaced them with laudations for the king's goodness, which previously had been overshadowed by his nobility. Just as the king was about to be killed, the Yankee ran to try to rescue him. It was unnecessary; Sir Launcelot and the "boys" wearing helmets with copse-like plumes, rode in on bicycles, to the rescue. (ninth grade English).

There is a pointlessness in much such writing, a feeling that the student is simply repeating what is already known with little involvement or sense of purpose. Often, it is sufficient to list the facts, as in the first two examples, or to provide strings of loosely related illustrations, as in the third. The fourth example is a test of a different sort, requiring a display of newly (and still uncomfortably) acquired vocabulary in the process of summarizing a recent reading assignment.

Overall, 48 percent of the writing samples provided by the teachers were categorized as informational writing to the teacher as examiner. More specifically, the most frequent task involved analysis directed to the teacher as examiner; this accounted for 22 percent of all of the writing collected. (See supplementary table 4, appendix 1.)

Papers addressed to a "wider audience" usually involve more naturally motivated tasks, where there are new items of information or new experiences to convey to someone who does not already know about them. We defined this category very generally, to include everything from publishable, sophisticated writing to notes and letters to specific friends. Even with this broad definition, only 12 percent of school writing was categorized as being addressed to a wider audience. Writing from business education was most likely to fall into this category, reflecting the various form letters (and letter formats) that business students learn. Letters were sometimes used in other subjects areas as well:

Olympia, WA 98503
April 30, 1980

President Jimmy Carter
The White House
1600 Pennsylvania Avenue
Washington, D.C. 20500

Mr. President,

In my opinion, boycotting the Olympic games in Moscow will not solve the United States' problems. It may be a good decision on your part (if our allies join us) because it would and will cost the Russians a good deal of money. But in the case that our European allies do not join us, it will have no effect on the U.S.S.R. I also feel that you're not considering the feelings of our athletes. Yes, you may have apologized to them, but apologies will not take away the four hard years of preparations for these 1980 Summer Olympic Games.

As you know, to compete in the Olympics, an athlete must be an amateur there, spending their own money and time. Your decision to boycott the Olympics might be more applicable if the United States paid the athletes what they have spent and for the time they have used to train for the Olympics. I agree that the athletes wanted no money when they were training and planning to go to the Olympics, but a Gold Medal in the athlete's event, representing your country, is something that money can't buy.

I think the United States should compete in the 1980 Summer Olympics, because we are very lucky to have very talented athletes. If we did go, I am sure the United States' athletes would return with many medals showing the United States' superiority there. When a gold medal was won by one of our athletes, they would not have to attend the ceremonies.

However, Mr. President, I am glad that I am not in your position, because I might not feel this way now.

Thank you for listening to my opinion.

Sincerely,

(Miss)

TB/nlc

(ninth grade Social Science)

Stories, when they were approached with some involvement on the part of the writer, were another type of writing which moved out of the school context to address a wider audience:

> The snow was falling up in the mountains where the hawks were flying above in the distance. Down below the wind was whistling through the cracks in the log walls of the cabin. The river was frozen from snowbank to snowbank. On the other side of the river a large buck was chewing on the bark of a tree. Off in the distance I heard a noise, a loud gunshot. The buck suddenly ran off swiftly but quietly in the snow. There was no sound at all as I watched the snow being kicked up behind the buck. The next thing I heard was a scratchy loud voice that said, "Damn . . . How could I a missed that?" I looked in the direction of the voice, and down from a hill, through the flakes of falling snow, was a man, an old man with a long white beard. He stopped and slowly poured some gunpowder down the barrel of the gun, it looked as if he was keeping one eye on me as the other watched his hand while he put a lead ball into the barrel, he packed it good and tight with a long rod, he took the rod out of the barrel and put it in a slot on the gun just beneath the barrel. My head grew light and my feet got cold as the man raised the gun. I felt sweat running down my face when I heard the click of the hammer lock in a back position. Now it was as if I was the buck with a fifty caliber flintlock aimed at me. My legs were too stiff to run and my mind was too far off to tell them to. The old man screamed in laughter as he withdrew his rifle and yelled, "What's the matter, ya frade of an old fool like me, are ya?" I didn't or I couldnt say a word to the old man. (eleventh grade English)

Finally, some 17 percent of the writing from science classes was addressed to a wider audience, reflecting reports in which students undertook their own experiments and became excited about and involved with their findings. The excerpts below, from the conclusion of a paper that explored oceanic farming as an answer to the world's food problems, reflect such an enthusiasm:

> As a result of having done research at the Dauphin Island Sea Lab this summer, and from further investigations through library resources, I have concluded that one of the most important steps in developing marine farming, would be to follow the principles of ecology by working and co-operating with nature in an effort to establish balanced, stable communities rather than supporting large crops artificially, as we do on land whose side effects are

already devastatingly disastrous.

> Man's most exciting challenge in marine farming, at the moment, would be to grasp the opportunity of making a new start in the development of food production and putting to use the ecological knowledge that we already have.
>
> Modern advances in technology usually generate wide-spread threats to the environment, but it is very enlightening to know that using water from the sea for either food production, power or even to obtain fresh water is a pollution free process. Vast areas of our planet could be put to use in the field of marine farming if only we will stop and attempt to take advantage of our inexhaustible supply of knowledge that we already have about the ocean. That great body of water which is man's answer to the already existing food shotage. (eleventh grade Biology)

Though writing addressed to wider audiences was relatively rare in the samples provided by the teachers in this study, it was evidently valued by them. Some 17 percent of the papers rated by the teachers as among the top quarter were categorized as addressed to a wider audience, compared with only 6 percent of the papers from among the bottom quarter of those received. (The difference was significant at the .05 level, chi-square for correlated proportions = 4.0, df = 1.)

LENGTH OF WRITING ASSIGNMENTS

Teachers were asked several questions about the length of writing assignments they made. Their responses are summarized in table 14.

The most typical writing assignment reported by these teachers was a page or less, though some 47 percent of the English teachers and 20 percent or more of the science and social science teachers reported "typically" assigning up to two pages. Longer assignments were made occasionally in all subjects, but particularly in English and the social sciences. Though differences between grade levels were slight, assignments of over two pages were significantly more likely in grade eleven than in grade nine, as were long-term writing assignments (taking a month or more).

Table 14
Length of Writing Assignments

Length	Percent of Teachers Reporting: Subject Area: English n=139	Foreign Language n=69	Math n=18	Science n=87	Social Science n=101	Business n=54	Grade: Ninth n=221	Eleventh n=235	Chi-square tests[1]: Subject df=10	Grade df=2
Up to 250 words (one page)										
Occasionally	28.1	24.6	38.9	51.7	39.6	42.6	31.7	41.7	59.55***	5.29
Typically	59.7	60.9	0.0	32.2	41.6	50.0	52.5	43.0		
251 to 500 words (one to two pages)										
Occasionally	40.3	30.4	11.1	36.8	44.6	33.3	36.2	38.7	107.41***	0.32
Typically	46.8	4.3	5.6	19.5	24.8	9.3	25.3	24.7		
501 to 1000 words (two to four pages)										
Occasionally	45.3	8.7	11.1	29.9	41.6	14.8	29.0	35.3	71.16***	8.80*
Typically	10.8	2.9	5.6	4.6	13.9	0.0	5.0	10.6		
Over 1000 words (more than four pages)										
Occasionally	35.3	7.2	11.1	17.2	31.7	5.6	17.2	28.9	51.18***	12.92**
Typically	3.6	0.0	0.0	3.4	6.9	0.0	1.8	4.7		
Long term writing assignments (taking a month or more)[2]	46.0	20.0	17.6	30.7	54.5	12.5	31.1	41.4	45.73***	5.22*

[1] Chi-square tests are based on three point scale: never assigned, occasionally assigned, assigned typically

[2] n = 139, 70, 17, 88, 101, 56, 222, 237; df=5, 1.

* p < .05
** p < .01
*** p < .001

When teachers were asked how much time students were given to complete a typical assignment, 52 percent indicated the typical assignment was due within two days; 91 percent reported that the typical assignment was due within a week or less. Subject area and grade level differences were slight, except that writing in math classes was more likely to be due the day it was assigned.

Student reports of the amount of time actually spent on writing were similar: 50 percent of the writing they discussed had been completed in an hour or less; only 13 percent had taken a week or more, in spite of a bias in the interview toward discussion of substantial rather than routine work.

SUMMARY

This chapter has taken a first and very general look at the nature of the writing tasks students are being asked to undertake. Results from both the observational studies and the national survey indicate that the use of written language to record information for later reference is an important part of the curriculum in virtually all subject areas, taking up some 44 percent of observed class time.

The nature of much of this activity is sharply restricted, however; only some 3 percent of observed class time involved writing of at least paragraph length; even in English classes, the traditional center for writing instruction, only about 10 percent of class time was devoted to writing in this sense. Results from the national survey suggested similar emphases. Writing-related activities reported in frequent use were heavily weighted toward mechanical writing tasks; only about a third of the teachers reported frequently asking students to write at greater length.

When students were asked to write a paragraph or more, the task usually involved informational writing of a page or less in length, to be graded by the teacher. The needs of the different subject areas led to differences in their emphasis on the various kinds of informational writing, and overall there was a slight but statistically significant movement toward longer and more abstract writing between ninth and eleventh grade.

The following chapters will place these assignments into the instructional contexts from which they derive, tracing the goals which teachers claim for writing in their classes and the way those goals interact with the assignments given and the teaching techniques adopted.

Chapter Four

Purposes for Assigning Writing

DEVELOPING A MEASURE OF TEACHERS' PURPOSES

In understanding the kinds of writing that students are being asked to do, it is helpful to relate the writing tasks to the instructional context out of which the tasks emerge. In this and the following chapters, we will explore two different ways of making sense of those contexts, one based on the reasons for asking students to write at all, the other on the kinds of instructional support that teachers feel it necessary to provide for various types of writing tasks.

Studying 246 British teachers from various subject areas, Barnes and Shemilt (1974) found that a large number of separate attitudes and teaching practices could be interpreted in terms of two sharply polarized views of the writing process. Some teachers saw writing primarily as a way to encode and repeat a traditional body of knowledge; Barnes and Shemilt called this the <u>transmission</u> view of the writing process. Other teachers took an <u>interpretation</u> view of writing, seeing it as a way for the student to explore a subject area, coming to understand new concepts in the process of writing about them. These views shaped diverse aspects of instruction, including the types of writing requested, the help provided while students were writing, marking and assessment of the completed writing, and the nature and extent of follow up work.

Barnes and Shemilt's results seemed promising, but their use of content analysis of open-ended responses was not appropriate for the present study. Hence one of our tasks was to design a scale that would measure the extent to which teachers adhered to a "transmission"

or "interpretation" view of writing. For the pilot study, 12 contrasting purposes for writing were drawn from Barnes and Shemilt's report, and teachers were asked to rate each purpose on a 4-point scale from "not important" to "very important" for the particular class.

As we should have expected with this format, responses were dominated by the general importance which teachers placed on writing activities; any other differences in their attitudes were minimized. A variety of exploratory factor analyses were undertaken to examine residual patterns of variation after the general response pattern was taken into account. Two secondary dimensions emerged from these analyses. One was defined by such goals as "to help students remember important information" and "to discover whether students have learned relevant content"; at the opposite pole of the same dimension was "to correlate personal experience with the topic being considered." The second dimension was defined by such items as "to explore material not covered in class" and "to force students to think for themselves," contrasted with "writing to provide writing practice." Though the pilot version of these questions was unsatisfactory, the scales made intuitive sense as, roughly, 1) a stress on subject area information versus personal experience, and 2) a stress on the application of subject area concepts versus the development of writing skills.

Accordingly, the question format was changed from a 4-point scale to a series in which teachers were asked to indicate the most important and least important reasons for assigning writing in a particular class. (During computer analysis, these responses were converted into a 3-point scale for each item.) Items were rewritten to remove am-

biguities, clarify the factor structure, and more equally represent the hypothesized underlying dimensions. The final version of the questionnaire had 12 items related to reasons for assigning writing, 3 for each pole of the two hypothesized dimensions.

After teachers in the national sample had completed the questionnaire, their responses to this series of items were similarly factor analyzed. Table 15 summarizes the results. The first factor contrasts writing tasks which focus on subject area information with those that focus on personal or imaginative experience; the second contrasts a stress on developing and applying subject-area concepts with a stress on the mechanics of writing and clear expression. These results confirm and extend the patterns that emerged from the pilot work.

To provide single measures of these two factors, the six items most strongly related to each factor were summed, with appropriate signs and unit weights. The resulting measures of stress on information and stress on concepts correlated .27 within the national sample. Alpha coefficients, which provide a measure of internal consistency and reliability, were .67 for information and .58 for concepts.

THE RANGE OF PURPOSES REPORTED

To get a sense of teachers' usual reasons for asking students to write, the scales were divided into thirds representing high, moderate, and low scores on each continuum. Dividing responses in this way, 70 percent of the teachers emphasized subject area information in their writing assignments, contrasted with only 16 percent who were primarily concerned with personal experience. Responses on the other dimension

Table 15
Rotated Factor Loadings, Reasons for Asking Students to Write

Reason	Factors[1]	
	Stress on Information	Stress on Concepts
To remember information	.65	.28
To correlate experience with topic	-.62	.17
To test learning of content	.49	-.00
To share imaginative experiences	-.63	-.22
To summarize class material	.64	.04
To express feelings	-.60	-.29
To explore out-of-class material	.10	.46
To practice writing mechanics	-.10	-.70
To force thinking	.03	.53
To apply concepts to new situations	.04	.67
To teach proper essay form	-.00	-.50
To test clear expression	-.12	-.41
Percent of total variation	18.8	17.4

n=734 teachers

[1]Principal components analysis, with rotation of the two largest vectors to the Varimax criterion.

were similarly skewed, with 44 percent reflecting concern with concepts and 24 percent concern with writing skills.

Taken together, the scales measuring stress on applying concepts and stress on learning subject area information define a range of purposes for assigning writing in school. Figure 2 provides a graphical display of these attitudes, and plots average scores for each of the six subject areas. These results are elaborated in table 16, which includes a summary of responses to individual items.

English teachers were most likely to stress personal and imaginative experience in their writing assignments, though testing of subject area content was reported to be an important use of writing in 46 percent of their classrooms. One of the English teachers from the city high school acknowledged this duality in goals:

> I think there are two reasons [for asking students to write], that are not generally connected to each other. One is, I need to know if they are learning what I am teaching for all of the reasons that you know--to grade them, to grade me, to know whether to continue a unit, to judge . . . all of that stuff. And the other one, and the one that I think is more important but probably really isn't, I think it's almost impossible for you to organize what you know and to really understand what you know if you haven't tried to put it down on paper. So let me say it another way; the second reason . . . in order to really understand something, you have to have tried to tell it to someone else, and that's really why I have them write.

English teachers are also, as one might expect, more concerned than teachers of the other subject areas with clear expression, writing mechanics, and proper essay form. Foreign language teachers show a similar concern with the mechanics of writing (though presumably in the foreign language), but place more emphasis on subject-area material and less on personal experience than do the English

Figure 2
Purposes for Assigning Writing

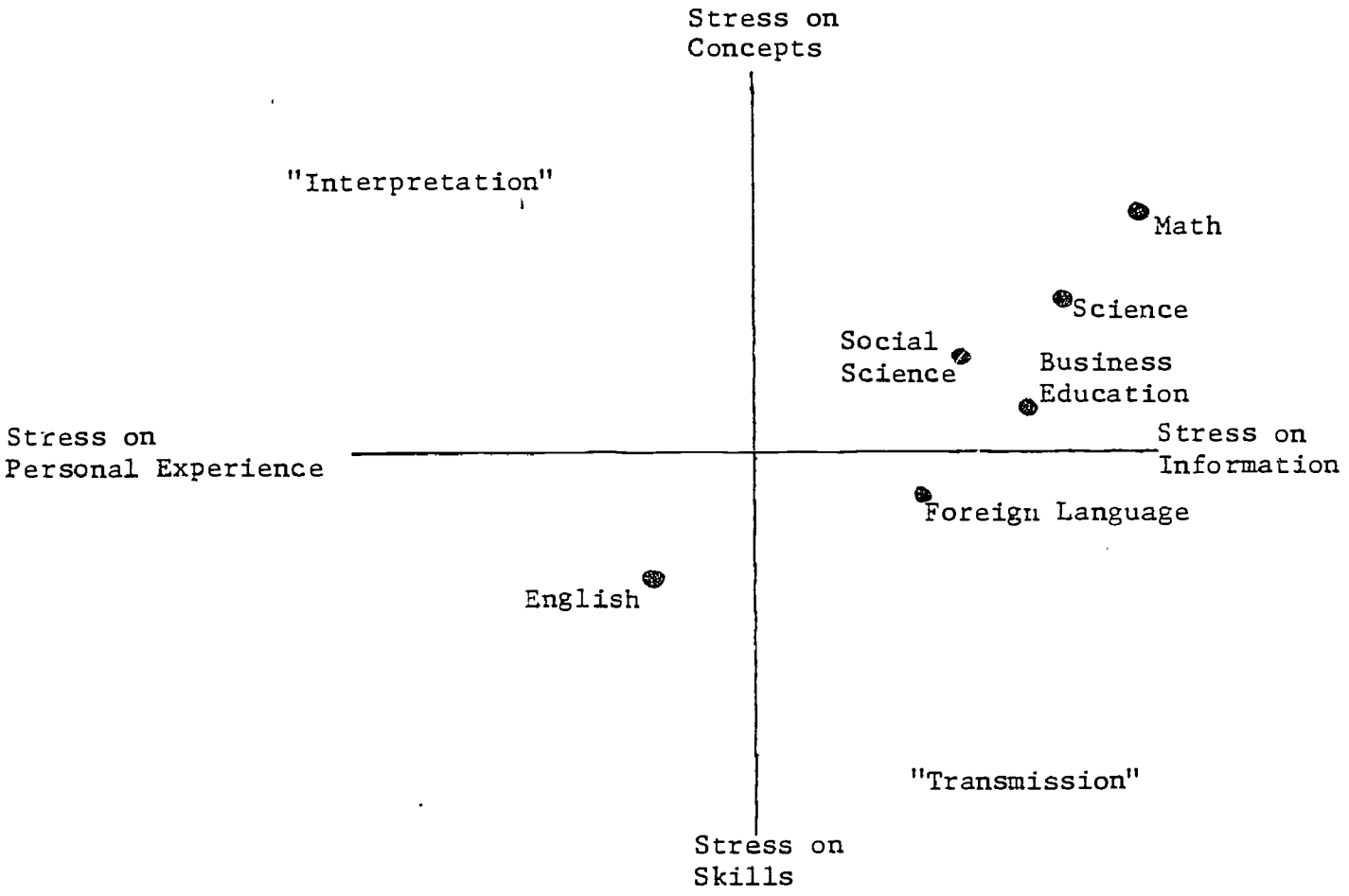

Table 16

Reasons for Asking Students to Write

	Percent of Teachers Rating as One of Two "Most Important"								Chi-square tests[1]	
	Subject Area						Grade			
	English n=140	Foreign Language n=102	Math n=142	Science n=134	Social Science n=113	Business n=102	Ninth n=377	Eleventh n=345	Subject df=10	Grade df=2
Stress on Information versus personal experience										
To remember information	18.6	53.9	91.5	67.2	56.6	72.5	62.1	56.5	208.1***	2.71
To correlate experience with topic	47.1	24.5	3.5	11.9	16.8	8.8	20.7	18.3	119.20***	2.35
To test learning of content	45.7	57.8	58.5	71.6	61.9	63.9	57.8	61.4	48.77***	6.17*
To share imaginative experiences	30.0	12.7	0.0	1.5	3.5	2.0	8.2	8.4	189.18***	0.11
To summarize class material	13.6	31.4	47.9	39.6	38.9	33.3	33.2	34.5	165.23***	0.27
To express feelings	38.6	22.5	2.1	10.4	27.4	15.7	21.2	17.4	124.78***	3.73
Stress on concepts versus skills										
To explore out-of-class material	5.0[2]	8.8	13.1[3]	21.9	28.3	10.8	18.7[4]	10.9[5]	131.83***	8.85*
To practice writing mechanics	46.8[2]	65.7	5.1[3]	6.7	15.9	35.3	29.0[4]	26.4[5]	205.18***	1.42
To force thinking	44.0[2]	30.4	75.2[3]	58.2	62.8	50.0	52.3[4]	57.2[5]	60.75***	1.73
To apply concepts to new situations	22.0[2]	48.0	70.8[3]	59.7	38.1	48.0	46.3[4]	49.7[5]	94.59***	1.16
To teach proper essay form	27.7[2]	5.9	2.9[3]	14.2	18.6	23.5	14.9[4]	15.8[5]	77.53***	4.07
To test clear expression	61.0[2]	46.1	29.2[3]	41.8	38.9	28.4	39.8[4]	42.5[5]	47.68***	0.64

	Averages								F-Statistics		
Summed Scores									Subject df=5;685	Grade df=1;685	Interaction df=5;685
Stress on Information	-1.0	1.6	3.8	3.1	2.1	2.8	2.0	[1]2.1	84.65***	0.14	0.63
Stress on concepts	-1.3	-0.5	2.5	1.6	1.0	0.5	0.7	0.6	53.01***	0.41	2.03

Multivariate Analysis of Variance (for 12 scales)

Effect	Lambda	df	F-Statistic
Subject	0.34	60;3183	11.82***
Grade	0.96	12;679	2.18*
Interaction	0.91	60;3183	1.03

[1]Chi-square tests are based on 3-point scales.

* $p < .05$
** $p \leq .01$
*** $p < .001$

[2]n=141
[3]n=137
[4]n=369
[5]n=348

teachers.

Math and science teachers' attitudes fall at the other extreme. In their writing assignments, they are primarily concerned with a combination of subject-area information and the application of concepts to new situations. It is in the application of concepts that essay writing really becomes valuable, offering an opportunity that short-answer and other mechanical formats do not provide. As one science teacher explained:

> Yes, it's important for them to know the content of the area, yet I feel they need practice writing in each subject area. Also in some essay questions they can draw many areas of knowledge together to form their answers.

Business education and social science teachers, as groups, fell somewhat in the middle of the scale, both placing some emphasis on subject-area knowledge, and relatively balanced in their stress on writing skills versus the application of concepts. This mix of goals was evident in a business education teacher's comments on what she looks for in grading papers:

> If we are talking about the business letters in Communication, I see if the purpose of the letter has been attended to. If someone could follow what needs to be done without contacting the person or without other communication. In terms of the term paper, in content I looked at the areas which we proposed that the students should touch on and I . . . to see if those were well-covered . . . I looked at the course outline to see if they actually dealt with what they set out to deal with. . . . I always look at [writing mechanics]. All kinds of errors are marked--grammatical errors, punctuation, spelling--I always mark those.

THE WRITING STUDENTS DO, REVISITED

Teachers' goals in assigning writing tasks are directly related

to the kinds of assignments they give. Overall, writing of at least paragraph length was more likely to be assigned by teachers who stressed personal experience (63 percent reporting frequent use) rather than subject area information (18 percent), and also by those who emphasized writing skills (48 percent) rather than the application of concepts (16 percent) (see supplementary table 5, appendix 1). These reports were confirmed by another series of questions, which asked what percentage of the mark on the final examination would be based on responses requiring paragraph length writing. (Whatever teachers may say they stress, the tasks they set on examinations are a very direct statement of the skills they value.) Table 17 summarizes results for those teachers who planned to give a final exam at all.

For the sample as a whole, an average of 16 percent of the grade on the final examination was based on questions that required writing of at least paragraph length. Teachers who stressed both personal experience and writing skills gave the most prominence to such questions, using them as the basis of 40 percent of the examination grade; those who stressed both subject area information and the application of concepts gave least prominence to questions requiring paragraph-length writing, using them for an average of only 7 percent of the exam grade.

Tables 18 and 19 summarize relationships between teachers' general purposes in making writing assignments, the types of writing assigned, and the audience to whom the writing was to be directed.

Whatever their specific views of the purposes of asking students to write, teachers in all groups emphasized informational writing: reporting on particular events, summarizing a series of particular

Table 17
Percent of Final Exam Based on Writing

	Average Percent Reported		
	Stress on Information		
Stress on Concepts	Low n=90	Moderate n=83	High n=430
Low (n=132)	40.0	30.3	16.5
Moderate (n=193)	36.2	21.3	13.0
High (n=278)	22.3	20.8	7.0

Analysis of Variance

Effect	F-Statistic
Information (df=2;594)	39.740***
Concepts (df=2;594)	12.018***
Interaction (df=4;594)	0.872

* p < .05
** p < .01
*** p < .001

Table 18

Relationships between Teachers' Purposes and Types of Writing Assigned

Type of Writing	Percent of Teachers Reporting: Stress on Information High n=261	Stress on Information Moderate n=84	Stress on Information Low n=107	Stress on Concepts High n=141	Stress on Concepts Moderate n=171	Stress on Concepts Low n=140	Chi-square test: Information df=2	Chi-square test: Concepts df=2
Informational Report	67.8	83.3	76.6	75.2	70.8	72.9	8.77*	0.76
Summary	70.5	59.5	66.4	73.0	66.7	63.6	3.57	3.02
Analysis	75.1	82.1	76.6	80.9	75.4	73.6	1.77	2.26
Theory	62.1	60.7	53.3	67.4	62.6	48.6	2.48	11.25**
Personal	32.2	51.2	72.0	29.8	45.6	60.0	50.02***	25.92***
Imaginative	26.8	57.1	77.6	29.1	46.2	57.9	85.86***	23.89***
Other	21.5	16.7	22.4	17.0	19.9	27.1	1.11	4.60
Long term writing assignments (taking a month or more)[1]	43.4	44.3	30.7	33.3	36.0	39.9	8.54*	1.36

* $p < .05$
** $p < .01$
*** $p < .001$

[1] n=277, 88, 106, 150, 178, 143

Table 19
Relationships between Teachers' Purposes and Audiences for Writing

Audience	Percent of Teachers Reporting: Stress on Information High n=279	Stress on Information Moderate n=87	Stress on Information Low n=107	Stress on Concepts High n=151	Stress on Concepts Moderate n=178	Stress on Concepts Low n=144	Chi-square test: Information df=2	Chi-square test: Concepts df=2
Only the student	47.0	35.6	48.6	47.7	44.9	43.1	4.06	0.65
Teacher, to react without assigning a grade	64.9	73.6	74.8	64.2	73.0	67.4	4.69	3.05
Teacher, to grade without other comment	55.9	48.3	34.6	61.6	50.0	38.9	14.17***	15.21***
Teacher, to react and grade	95.0[1]	97.7	95.3	96.7	96.1[2]	94.4	1.16	0.99
Other students	44.4	60.9	79.4	47.7	55.6	64.6	39.65***	8.54*
Others	8.6	8.0	14.0	6.6	8.4	15.3	2.93	6.90*

* $p < .05$
** $p < .01$
*** $p < .001$

[1] n=280

[2] n=179

-65-

events, analyzing, and theorizing. Within this general pattern, teachers who were concerned with the application of subject area concepts were more likely to assign writing tasks involving theorizing, while teachers whose primary concern was with subject-area information were more likely to assign long-term writing projects. A consumer education teacher who used a variety of information-oriented mechanical writing tasks made explicit why she also valued project work:

> What writing do your students do?
>
> I would say that some take notes and I give written work for them to do such as check sheets, worksheets, a lot of times it is only true/false that they write or something like that. Other times they have to write definitions for like fill-in-the-blanks, cross word puzzles . . . that type of writing. All of my tests are multiple choice, true/false, and matching type. I have not given any exams that are essay, but I do give extra credit questions which are essay type. Then I have students do things like summarize an article, which is a one-page summary. The better students do projects, and this is on the basis of pretest, and if they do a project, a lot of time it would be more like a research paper.
>
> Why do you assign this type of writing?
>
> One of my goals is to save time, and so that saves me some.

The largest differences in types of writing assigned, however, were in the areas of personal and imaginative writing. Both of these were at least twice as likely to be assigned by teachers who stressed individual experience rather than subject-area information, and by teachers who stressed writing skills rather than the application of concepts. These same teachers were also more likely to provide wider audiences for writing, particularly to offer opportunities for students to read one another's work. Conversely, they were less likely to

simply assign a grade to a writing assignment, without other comment.

A science teacher provided us with a useful reminder that "good" writing can take many different forms:

> There is a certain way in which [science] papers have to be written in order to be published and I've tried to follow with some of them this particular format and try to show them how this writing is different from others. Which brings out a point which was a problem to me a few years back. I had a student who went to the state competition, and won outstanding in the state. The scientific paper was well-written, he had aspiration of being in science--this is his area--and he said he wanted to go into it. He was doing excellent . . . he could use subordinate clauses . . . I thought there was nothing wrong with the way he was writing, his grammar, and everything else as far as English was concerned. Yet he was failing his English class in ninth grade because he was not creative. The young man did not want to be creative, he wanted to be scientific. So I think students need to know that there is more than one type of writing . . . and some learn to write poems while others would just as soon write a scientific paper and do quite well with it. And we never could convince this young man to be creative, and I believe he ended up failing freshman English.

Of the many implications that might be drawn from his comments, the mixture of definitions of "good writing" seems especially important to note. On the one hand there is a tendency to equate good writing with sentence-level skills ("he could use subordinate clauses," "there was nothing wrong with the way he was writing, his grammar"). On the other, there is a recognition that the writing of science has its own particular conventions and ways of proceeding which are quite different from those that matter in English class (here equated with creative writing, particularly poetry). Such a mix of views, of understandings and misunderstandings, would provide an excellent starting point for any discussion of the place of writing instruction within the curriculum as a whole.

WHO SHOULD TEACH WRITING

The reasons teachers cited for asking students to write were closely related to the extent to which they saw themselves as responsible for the teaching of writing in their subject area. Overall, some 82 percent of the teachers felt that both the subject-area teacher and the English teacher should take responsibility for the development of writing skills; only 18 percent felt that this should be the sole responsibility of the English teacher. Attitudes were somewhat begrudging, however; some teachers failed to realize that writing in their subjects might contribute to subject-area learning as well as to the English teacher's task. Such an attitude seems to underlie the following comment, also from a science teacher:

> We in the sciences and social sciences should allow them to practice their writing skills, try what we can to improve their skills, but I do think most of it falls on the English teacher as far as working with the grammar and trying to show them how to express themselves on paper.

I n the national survey, mathematics teachers were least willing to share the responsibility of teaching students to write, 32 percent claiming this should be the English teachers' job. English teachers were the most eager to involve teachers of other subject areas in the problem, only 4 percent claiming the task solely for themselves.

Table 20 relates this concern to teachers' reasons for asking students to write in their classes. Only 8 percent of those who were concerned with the teaching of writing skills limited this concern to English classes, compared with 26 percent of those who used writing primarily to get students to apply concepts in new areas. Similarly

Table 20
Relationships between Teachers' Purposes and Perceived Responsibility for Teaching Writing

		Percent of Teachers Indicating		
Stress on Information	N	English Teacher	Subject Area Teacher	Both are responsible
High	515	21.4	0.4	78.3
Moderate	102	13.7	1.0	85.3
Low	119	5.0	0.8	94.1
Stress on Concepts				
High	316	25.6	0.3	74.1
Moderate	234	12.8	0.9	86.3
Low	179	8.4	0.6	91.1

Chi-square test (df=4) Information=19.54***

Chi-square test (df=4) Concepts=29.11***

* $p < .05$
** $p < .01$
*** $p < .001$

only 5 percent of the teachers concerned with students' personal experience felt that the teaching of writing is only the English teacher's responsibility, compared with 21 percent of teachers whose primary concern was with subject area information. This attitude is particularly clear in the comments of the following teacher, who limited her concern to the conventions of specialized forms of writing in her subject area:

> Who do you think is responsible for teaching students to write?
>
> Basically, I think it starts in the elementary, and like I said, most students who write now, by the time they are in high school, they are either highly motivated to do that and want to improve, or they are just in the habit of already writing well. So, I don't feel any real strong responsibility. Now, in my foods classes I do feel a certain responsibility. That they spell for instance words that are used in foods only, they might be used other places but they are definitely foods words kinds of things. Also certain mechanics like writing a menu, center it to capitalized words, to put it in one particular order, a nice looking paper. So in measuring writing recipes, writing work plans, I do teach them writing in that class. In Consumer Ed I feel that the students in the class are there basically to learn the attitude and the ideas rather than to write it. I do think it makes a difference in what class you're teaching as to whether or not you stress things like spelling, punctuation, correction.

Like the science teacher whose prize student had failed English, this teacher recognizes some specialized conventions of writing that are specific to her subject area, and considers it her responsibility to teach these conventions. Yet the two teachers are a long way apart in their conceptualization of those specialized writing skills. For the science teacher, the skills seem part of a whole approach to the subject; the student he was discussing "did not want to be creative, he wanted to be scientific." This is quite a different conception of

content area writing skills than that of teaching students to spell the specialized vocabulary of foods classes, or to master the mechanics of writing a menu.

SUMMARY

A series of scales was developed to measure the major dimensions underlying teachers' purposes in assigning writing tasks. Although the instrument was based upon Barnes and Shemilt's (1974) study of the attitudes of British teachers, the results were more complex than the earlier work had suggested. Rather than a simple polarization of attitudes, two dimensions were found. The first appears to contrast the learning of subject-area information with the exploration of the personal or imaginative experience of the student. The second contrasts assignments designed to develop students' writing skills with those demanding the application of concepts in new situations.

These dimensions were in turn related in systematic (and intuitively sensible) ways to the characteristics of the assigned writing, including the relationship between the writing task and the experiences being written about (that is, the function of the writing, in Britton's [1970] sense), and the audience to whom the writing was addressed.

We should note, however, that the two dimensions underlying teachers' responses represent the way that writing is currently viewed, rather than a necessary set of choices among instructional goals. It is quite possible to argue that in effective instructional contexts the polarities might collapse: that the most effective learning of writing skills occurs when concepts are being applied, or

that subject-area information is learned best when applied in the context of individual experience. These are issues that we will return to later.

Chapter Five

Writing Instruction

In this chapter, we will be turning to a description of processes and procedures when teachers assign writing of any substantial length. The focus will be on teaching, the differing procedures teachers adopt in order to help their students learn. The problem in such a description is to avoid triviality: there are innumerable procedures that may be used in conjunction with writing assignments, a variety which may be necessary to maintain interest and effectiveness, but which becomes bewildering in its detail in any attempt to explore broad characteristics of instruction and their relationship to the writing that results.

The approach taken in the present study has already been introduced in Chapter 1. We have viewed particular teaching techniques in light of their relationship to the composing process, particularly in light of the kind of instructional support which the techniques provide for that process.

In this context, mechanical writing tasks (such as multiple-choice and fill-in-the-blank exercises) can be seen as tasks in which the support is so complete that the problem of composing coherent text has been taken over by the teacher, leaving the student to supply only the appropriate items of information. Similarly, writing in a test situation, where the only prompts are likely to be an essay title and some indication of appropriate length, can be seen as an instance where no instructional support is provided at all, leaving the students to work through the entire process on their own. It is only slightly paradoxical to suggest that these two extremes--the one providing no support for the writing task and the other taking over almost all of it--are likely to be characteristic

of the writing assignments in the same group of classrooms.

PREWRITING

One of the most critical places in a writing task, from both the teacher's and the pupil's point of view, is the beginning, including making the topic clear and conveying expectations about the dimensions of the task: such details as length and form, as well as the boundaries of students' relevant knowledge and experience.

Setting the Topic

The importance of the expectations conveyed at this stage is evident in one ninth grader's reaction to a report-writing assignment in science:

> Well, I was disappointed because he didn't give us--I didn't feel that he gave me enough information on what he wanted me to write about. It was like he turned me loose on something that looked rather important to him, 'cause it's only like the second one we've had all year and it didn't give me enough information. . . .he said we needed two other references besides our biology book, it was worth 100 points, and he had given us five days to do it in, or four days to do it, so it seemed to me like he meant it to be an important assignment. But with what he wrote down--the information it was--I could of easily done it in a page. He said three pages and I really was baffled.
>
> (Bart, grade nine, laboratory school)

Bart's reaction to being "turned loose" on an unfamiliar topic is understandable, though his comments about the way in which the assignment was presented to him make it sound typical of the way in which secondary school students are asked to write. In the observational studies, the amount of time devoted to prewriting activities averaged just over 3 minutes. That included everything from the time the teacher began introducing the topic until the first student began to write. Those 3 minutes were spent writing the essay topic on the board, or passing out and reading through a dittoed assignment sheet, followed by student

questions about task dimensions: "How long does it have to be?" "Can I write in pencil?" "Do I have to do this?"

Though the way Bart was asked to write his science report was typical of many other assignments, the task itself was unusual in several respects. In the previous chapter, we noted the extent to which teachers in all subject areas emphasized writing as a way to test students' knowledge of subject-area information and concepts; in such situations, the task for the student is one of organizing and reporting back information that is already available. Delineating the topic is straight-forward and students know what they are supposed to do.

Figure 3 lists a variety of writing assignments which function in this way, drawn from responses to the national survey and from the observational study. Characteristically, the topics are in one sense impossible, deserving book-length treatment to be handled well. They become reasonable tasks only when they are interpreted by the student as requests to summarize material previously presented in lessons or texts.

Sarah (grade 11, laboratory school) comments on the limitations of such writing tasks, and contrasts them with writing a long term paper, which is "a time consuming, complicated process which requires a great deal of thought":

> Writing a post-test essay is an easier process because I do not have as many options as when I am writing a term paper. When I write a term paper I can look for what I need and then I must organize. A post-test essay is based on what I already know. Therefore, my options are more limited.
>
> First, what I will write about is limited to a certain subject so that eliminates the problem of picking a subject. I do not research it but instead I must consider what I know my topic is based on my information rather than having to look up information for a topic. Then I must organize my information and hopefully support my theses. This process is quicker because my subject is limited, my knowledge is limited, and my time is also limited. So, there are fewer complications.

Figure 3

Topics Testing Subject Area Knowledge

Western Europe on the eve of the Reformation was a civilization going through great changes. In a well-written essay describe the political, economic, social, and cultural changes Europe was going through at the time of the Reformation. (25 points)
ninth grade Social Studies

Select some phase of twentieth century American literature and discuss it in a theme of 300-500 words. Turn in polished draft only.
eleventh grade English

Write a one-page report on one of the following topics. Please be neat with your work. Check for spelling and sentence structure.

1. the diesel engine
2. the gas engine
3. supersonic flight
4. sound
5. what can I do to conserve fuel?

ninth grade Science

Explain the ability of the Constitution to change with the times.
eleventh grade American History

Write a paragraph on solving quadratic equations.
ninth grade Algebra

In a well-organized essay of 200-250 words, answer the question which follows: Homer considered that Odysseus was a hero, a representative of Greek ideals. How is Odysseus a model for youths of all times?
ninth grade English

Write a brief essay describing a building (or type of building) which best represents 20th century American culture.
ninth grade World History

The marriage vows say, "Until death do us part." According to Toffler, what is the problem? What solutions are likely in the future? Please explain "serial marriage" and "marriage trajectory" as part of your answer. (20 minutes)
eleventh grade Social Studies

Define poetry.
ninth grade English

The science report that Bart was asked to write, on the other hand, differs in two substantial ways from such "post-test essays." First, although Bart is concerned about the information the teacher "gave" him on the topic, there is a clear suggestion that the students are to find new material on their own. And second, the report format is itself relatively unfamiliar; Bart says that this was only the second such assignment during the year. It is likely to have been these aspects of the task which caused his bewilderment, and which made the teacher's method of giving the assignment, though typical, seem inadequate.

Conveying Task Dimensions

Closely related to the problem of setting the topic for writing assignments is that of defining the dimensions of the task: who will be the audience for the writing? what is its function or purpose? how will it be evaluated? Certain aspects of the task always seem clearly defined. The length of an assignment is almost always stated, in terms of paragraphs or pages or number of points; so too is the time-frame for completing the task. Audience is rarely mentioned, perhaps because the audience for school writing is so universally the teacher, usually in the role of examiner.

On other aspects of the task, teachers sometimes send mixed signals. On the one hand, they tend to complain about the quality of student writing, defining quality largely in terms of sentence-level mechanical skills. On the other hand, particularly in the content areas, they mark the students for subject area content and provide little guidance about how to approach an assignment. Thus a science teacher, when asked if she does anything to prepare students for the writing assignments she

gives, replied:

> Not usually. I expect them to have the skills as far as being able to form paragraphs, know when to use a paragraph, write in complete sentences, this sort of thing, and I tell them ahead of time that they should do this.

Table 21 summarizes student interview responses, when they were asked about teacher instructions and their own prewriting activities. (Each student reported on writing in two subject areas; only English and social studies were discussed frequently enough to summarize separately.) Over two-thirds of the students noted instructions related to the form--such things as length, neatness, and lay out on the page. All other sorts of instructions were rare in both subjects. Specific hints as to the appropriate content were reported just over a fourth of the time, teacher-supplied outlines were reported just over 10 percent of the time, and there was occasional discussion of the topic or of model responses. In general, the students' responses are similar to the observers' findings that prewriting activities typically took about 3 minutes--not time for much at all.

Students' own activities before they begin to write are dominated by the problem of selecting or narrowing a topic. Kathy (11th grade, laboratory school) explained how important this stage is, in the context of discussing research papers:

> First of all, a topic must be chosen which can fill enough space and which is interesting. I find that if I am not interested in my topic, I get bored quickly of rewriting and rethinking the subject, and my organization, and therefore the quality of the paper, suffers immensely. Having the topic interest you is the most important quality of the topic, but it is also important for there to be information on it somewhat readily available (although the more interesting it is, the easier you will find it to go to lengths to research it). . . .

For their writing in social studies, students were more likely to search out information from reference materials, in the way Kathy

Table 21
Prewriting Instructions and Activities Reported by Students

	Percent of Students Indicating	
	English n=31	Social Science n=24
Instructions		
Form	87.1	66.7
Content	25.8	29.2
Mechanics	16.1	8.3
Model (provided by teacher)	9.7	4.2
Outline (provided by teacher)	9.7	12.5
Discussion related to topic	12.9	4.2
Activities		
Selecting a topic or focus	51.6	62.5
Thinking about the subject	54.8	29.2
Using text or other books as resource	16.1	54.2
Taking notes	32.3	29.2
Making an outline	19.4	16.7

is suggesting; in English, they were more likely to spend their time thinking about the subject, trying to sort out relevant opinions and experiences. Less than a fifth of the students, however, indicated that making an outline was part of this sorting out process.

Some teachers, of course, are more concerned with the teaching of writing, and work very hard to provide a variety of prewriting activities. Thus when an English teacher at the city high school was asked about how students were prepared for a written assignment, he put the question in context:

> I've been doing it all semester. The first day of class I gave them a two-page thing on writing. Just about every day when I lecture about anything, I talk at the end or at the beginning of the lecture about how one might go about expressing whatever it is I'm teaching during that day in a written assignment. So I gave a sermon once last semester, I read one of Jonathan Edwards' sermons, and at the end of it in talking about the content of the sermon I also talked about how you would go about relating this to religious matters, and so on, in writing. Plus I've tried always when they are going to write about something to give them a specific, logical sequence of experiences. I ask them to read it, ask them factual questions about it, and I ask them to get in groups and discuss the topic that they are going to be writing about, and then I have them write about it individually. So, I go from individual, to group, back to the individual.

The sequence he is describing is a blend of many techniques designed to clarify both the content to be written about and the form in which the writing is to be cast. His repertoire of techniques includes modelling of successful task performance, comprehension exercises on new material, group discussion in which students have an opportunity to develop their ideas and talk through their experiences, and formal analysis of the qualities of successful writing.

Survey Results

Teachers in the national survey were asked the extent to which they used a number of specific teaching techniques in the course of

asking students to write; responses were limited to writing of at least paragraph length, in contexts other than final examinations (after which there is no opportunity for various kinds of follow up activities). The list of techniques was in no way comprehensive, but provided a sampling of approaches at different stages of the writing process.

Table 22 summarizes responses to those items related to setting the assignment and beginning the task.

The most popular technique in helping students get started was to have them begin their writing in class, so that they could ask questions about what was expected if they found themselves in difficulties. This approach was most popular with the English teachers, nearly 80 percent of whom reported that they regularly assign writing in this way; it was least likely to be used by the math teachers (11 percent).

Written assignment sheets to explain the task were used regularly by about a third of the teachers; they were particularly popular in the social sciences where students were likely to be asked to prepare reports based on library research. In the other classes, assignments were presumably usually given orally or written on the board.

Model responses for students to examine--a powerful technique in introducing new forms of writing--were reportedly used regularly in 29 percent of the classes. They were cited most frequently by foreign language teachers (47 percent), least frequently by science teachers (17 percent). Even English teachers, who usually spend so much of their time discussing literary selections, apparently use the selections as writing models only about a third of the time. This may be because students are usually asked to read imaginative selections, but to write in the informational mode, analyzing and criticizing the selections they have read.

Table 22
Teaching Techniques: Prewriting

Technique	Percent of Teachers Using Regularly: Subject Area: English n=140	Foreign Language n=70	Math n=18	Science n=88	Social Science n=99	Business n=56	Grade: Ninth n=224	Eleventh n=236	Chi-square tests[1]: Subject df=10	Grade df=2
Assignment sheet	32.9	20.0	27.8	34.1	47.5	33.9	33.0	35.2	36.28***	1.99
Model responses	32.1	47.1	27.8	17.0	19.2	35.7	29.9	28.0	39.69***	2.64
Beginning in class, to answer questions	77.9	60.0	11.1	33.0	37.4	50.0	60.3	45.3	82.48***	10.77**
Brainstorm with class	37.1	14.3	11.1	10.2	14.1	10.7	19.2	20.3	71.66***	0.19

[1] Chi-square tests are based on three-point scales: Never, sometimes, regularly.

* $p < .05$
** $p < .01$
***$p < .001$

Finally brainstorming, which is one of many techniques that help students draw upon their knowledge and experience, was reported in regular use by some 37 percent of the English teachers, and by no more than 14 percent in any of the other subject areas.

The only significant grade level difference in these responses involved beginning assignments in class. This decreased from 60 to 45 percent between ninth and eleventh grades, reflecting teachers' confidence that the older students can tackle writing assignments on their own.

If we look at teachers' goals in making writing assignments, we find a stress on individual experience and (to a lesser extent) a stress on teaching writing skills were associated with beginning the writing assignment in class, and with the use of brainstorming techniques to help students bring relevant experiences to bear on a writing topic. (These data are summarized in detail in supplementary table 6, appendix 1.)

WRITING AND REVISING

Most writing instruction takes place before students begin to write, or retrospectively after the writing is complete. There are a few techniques, however, teachers can use to provide instructional support during the writing task itself, either by segmenting the task or by simply being available as a resource when the student needs help. Table 23 summarizes teachers' reports concerning their use of three such techniques.

Though none of the techniques is widely used, having students write in class in order to help them while they are writing is the most frequent. Nearly three quarters of the English teachers and half of the business education and foreign language teachers report regular in-class writing,

Table 23
Teaching Techniques: Writing and Revising

	Percent of Teachers Using Regularly								Chi-square tests[1]	
	Subject Area						Grade			
Technique	English n=140	Foreign Language n=70	Math n=18	Science n=88	Social Science n=99	Business n=56	Ninth n=224	Eleventh n=236	Subject df=10	Grade df=2
Writing in class	73.6	55.7	16.7	25.0	21.2	51.6	50.0	42.8	128.23***	2.95
Break assignment into steps	35.7	30.0	22.2	30.7	27.3	35.7	40.2	25.0	28.92**	12.48**
Require more than one draft	59.3	24.3	11.1	6.8	10.1	32.1	29.9	28.4	151.82***	0.17

[1] Chi-square tests are based on three-point scales: never, sometimes, regularly

* $p < .05$
** $p < .01$
*** $p < .001$

compared with a quarter or fewer of the science, social science, and mathematics teachers. However, one of the most frequent contexts for in-class writing is the essay exam, during which the technique loses its effectiveness as an instructional procedure and becomes one of purely monitoring behavior.

Breaking assignments into steps to be completed one at a time can be a very effective way to lead students into more complex writing tasks by segmenting the tasks into smaller, more manageable units. There are a number of ways such segmentation can be accomplished, depending upon the nature of the writing task and the skills that the students bring to it. On longer assignments, the most common approach observed was to separate such stages as bibliography cards, outline, rough draft, and final draft, often with separate due dates to allow the teacher to review progress and make suggestions before the student moved on to the next stage. On shorter assignments, teachers sometimes segmented the writing itself, providing an outline either of the structure to be followed (e.g., thesis statement, supporting details, conclusion) or of the specific issues to be dealt with in the answer (". . .describe the political, economic, social, and cultural changes Europe was going through at the time of Reformation").

Students in special education classes are particularly in need of help in attacking longer writing assignments, and our observers noted some of the most effective use of segmented tasks in such classrooms. In one ninth grade class, for example, students had been given the following assignment:

> Book Report
>
> Use this format and write the book report on a separate sheet of paper.

I. Title
II. Setting (where the story took place)
III. Main characters (list at least 4 and write a sentence describing each).
IV. Write a paragraph (at least 6 sentences) and describe the opening of the book.
V. Write two paragraphs (at least 6 sentences in each paragraph) and describe the middle of the book. Tell what the main character does and what happens to him.
VI. Write 1 paragraph (at least 6 sentences) and describe what happens in the end of the book. (Tell what happens to the main character.)
VII. Write 1 paragraph (at least 4 sentences). Tell how you liked the book and why. Tell if you would recommend the book to anyone else.

This effectively reduced a four-paragraph theme into a series of one-paragraph tasks, preceded by some warming up exercises. In terms of producing a well-formed text, the warm up exercises might better have been separated from the paragraph writing, but the task as a whole was quite successful. The following paper, among the best from the class, illustrates the nature of the writing that can result from such an approach:

Book Report

I. Hot Rod
II. Setting-California 1950's
III. Bud Crayne-a guy who has a lot of noledge about cars.
Walt Thomas-He is a freind of Bud Crayne's.
Ralph Osler-He is also a freind of Bud Crayne's.
Officer Oday-a police officer who comes down hard on Bud.
IV. The book opens with Bud Crayne behind the wheels of his car. He has just rounded a curve at fifty miles an hour, when a green car comes up behind him. The car goes by. He took a pencil from behind his ear, jotted the readings from his equipment. He then speeded to sixty, then 70 and on. Then he passed the green car.
V. In the middle of the book, it tells about Bud's life. It tells about how he became a good driver. It tells about his occupation which is being a mechanic at a gas station. It tells about how Bud quit school and was driving at the age of 13. It tells about the divotion Bud has to his car. At this point it tells how office oday cracks down on Bud. It tells about how Walt Thomas makes a bet to Bud that he can't make it to a town call Trenton in thirty minutes for ten dollars.

> It tells about how the school is having a teen age rider. It tell about how Officer Oday trys to get Bud in a drivers ed class to help his driving for the rodeo. The book tells that Officer Oday gets a kid who is just learning to take the class. It tells that Bud makes the Trenton run. It shows how he make the Trenton run. And shows Walt up.
>
> VI. At the end of the book it shows the rodeo. It tells all about the rodeo. It tells how the freinds of Bud get killed in a car accident. It showes how the cars that inter the rodeo get certen things they got to do. Bud didn't win first place. Bud had won friend. It made him feel bad.
>
> VI. I like the book. I thoght it had a lot of suspence. Also it had action at the same time.

Such techniques were used regularly by about a third of the teachers surveyed, and were more prevalent in ninth grade than in eleventh grade classes (table 23).

Requiring more than one draft of a writing assignment was reported less frequently, by just under 30 percent of the teachers surveyed. English teachers were most likely to report "regularly" asking students to rewrite (59 percent); science teachers were least likely to do so (7 percent).

The extent to which all three of these techniques were used was directly related to teachers' goals in setting writing tasks. As we have seen with other aspects of their instruction, teachers who stress subject area information and those who stress the application of concepts in new areas were less likely than others to help students with the writing task. (Detailed results are summarized in supplementary table 6, appendix 1.)

Even when more than one draft is required, students differ widely in the extent to which a second draft means anything more than editorial tidying up. In the excerpt below, Kathy, a very able eleventh grader, treats her drafts as a way to explore and develop her ideas:

> At this point, I have done my research, using my thesis and sketchy outline as a guide and I know my topic pretty well, so

> I sit down and write my paper, very sketchily, from memorizing only approximations of evidence & dates, etc. The dates and specific evidence can be looked up again later. At this point, if the paper is much too long or short, it is time to get worried & expand or narrow my thesis statement and scribble down another sketchy outline and then rough draft. When my rough, rough draft is the proper size, I go away again, to return once again w/ an open mind.
>
> When I return, I reread everything I have so far, my thesis, my evidence, and then my rough draft, and then I proceed to hack it to pieces (figuratively of course!). Paying attention only to subject & very basic organization (such as order of paragraphs), I scribble all over my rough draft in a diff. colored pen or marker until I like what the paper says. Then I rewrite it, on new paper, filling in specific evidence and being more picky about sentence organization and spelling. When this is done, I reread my paper, which should be almost done, and then, if time permits, I leave again. Upon returning w/ an open mind, I reread the paper, correcting spelling errors and changing a few sentences here and there and when all seems well, I recopy it neatly or type it, depending upon the pickiness of my teacher.

Kathy appears to use her drafts to make significant changes in what she says in her writing. Jeremy, also an able eleventh grader, treats the process very differently. He works from a tight outline, to which he has added "the details" from his research:

> The actual writing is not that difficult. You just mainly fill in the outline with the information from your notecards and add some of your own style to tie it all together. If you have planned well and done your research everything just falls into place.
>
> Now you're almost finished. All that is left is adding footnotes and a bibliography if they are necessary. You might want to recopy or even type it for neatness.

Student comments about successive drafts suggest that Jeremy is more typical than Kathy in his process. In writing for English, only 23 percent of the students interviewed claimed to make changes that went beyond spelling, mechanics, usage, or vocabulary choice; in writing for the social sciences, one third claimed to make such larger changes. For the majority of the students, use of successive drafts for more than minor editorial changes requires help from the teacher, and that in turn

requires extra time and energy from teachers who are already hard pressed.

POST-WRITING RESPONSES AND ACTIVITIES

Once students have completed their final draft, the writing activity is over but the process of instruction continues through the responses of teachers and other readers. Student writing is primarily directed to the teacher, as we noted in discussing the nature of assigned writing tasks in chapter 3. The teacher has many options about what to do with this writing, however, ranging from what amounts to sentence-by-sentence editing, to comments on the arguments or point of view expressed in the writing, to arranging to share it with other readers.

Marking the Papers

Table 24 summarizes teachers' answers when asked about the techniques they used in reacting to the writing they receive. Teachers gave two sets of responses to these techniques. In the first, they indicated which techniques were most important and which least important for the particular clss being discussed. In the second, they indicated which techniques were used routinely, whether or not they were the most important.

Overall, the rank order of the techniques was similar using the two approaches. The most frequent type of response in routine use was to indicate errors in writing mechanics; this was reported by 71 percent of the teachers. It also ranked first among important responses for the particular class (47 percent). Techniques that directly engaged the ideas that the student was expressing--posing counterarguments, responding with the teacher's own views, or suggesting related topics the student might explore--were used routinely by no more than a fifth of the teachers; those techniques were also rated as least important among the possible reactions.

Table 24
Teacher Responses to Student Writing

	Percent of Teachers Indicating								Chi-square tests	
	Subject Area						Grade			
	English n=138	Foreign Language n=70	Math n=18	Science n=88	Social Science n=100	Business n=55	Ninth n=223	Eleventh n=234	Subject df=10	Grade df=2
Important to[1]										
Indicate mechanical errors	56.5	80.0	11.1	25.0	31.0	70.9	46.2	48.7	90.31***	3.44
Suggest improvements in style	62.3	50.0	5.6	5.7	25.0	38.2	38.6	36.3	137.30***	0.49
Point out errors of fact	14.5	31.4	61.1	67.0	62.0	45.5	43.9	41.5	100.34***	5.18
Assess accuracy of conclusion	23.2	14.3	66.7	78.4	51.0	27.3	45.3	36.3	109.69***	5.25
Assign a grade	21.7	42.9	33.3	50.0	52.0	47.3	36.3	42.3	35.71***	1.71
Comment on logic, organization	62.3	31.4	66.7	39.8	44.0	29.1	42.6	50.0	37.96***	2.89
Pose counter arguments	15.2	10.0	27.8	20.5	29.0	12.7	20.2	17.5	29.07**	0.53
Respond with own views	10.1	5.7	11.1	6.8	14.0	7.3	11.7	7.7	8.00	2.28
Suggest related topics	10.1	27.1	11.1	19.3	21.0	18.2	23.3	13.7	17.82	7.87*
Routinely[2]									df=5	df=1
Indicate mechanical errors	87.7	71.4	33.3	62.5	68.0	58.2	65.0	76.1	38.80***	6.72**
Suggest improvements in style	70.3	44.3	16.7	22.7	33.0	41.8	40.8	47.9	65.30***	2.30
Point out errors of fact	69.6	44.3	27.3	76.1	71.0	47.3	57.8	70.1	37.79***	7.43**
Assess accuracy of conclusion	56.5	20.0	50.0	67.0	61.0	34.5	47.5	55.6	47.64***	2.94
Assign a grade	78.3	62.9	55.6	76.1	67.0	65.5	67.3	73.1	10.54	1.85
Comment on logic, organization	76.1	41.4	61.1	52.3	61.0	30.9	52.0	62.8	44.36***	5.45*
Pose counter arguments	48.6	12.9	16.7	35.2	49.0	18.2	35.4	36.8	43.55***	0.09
Respond with own views	39.9	14.3	5.6	15.9	31.0	23.6	25.6	27.8	28.43***	0.29
Suggest related topics	34.1	24.3	11.1	33.0	41.0	23.6	32.3	32.5	11.35*	0.002

* $p < .05$
** $p < .01$
*** $p < .001$

[1] Chi-square tests based on three-point scales ranging from most to least important.

[2] Chi-square tests based on yes/no responses.

Within this general pattern, however, there were subject area differences. Teachers of English, business education, and foreign language were most likely to claim marking mechanical errors and commenting on style to be among the important responses, though the majority of teachers in all subject areas except math reported routinely indicating errors in writing mechanics. Errors of fact and accuracy of conclusions were particularly important to the math and science teachers, and to a lesser extent to the social science teachers.

Grade level differences were less evident than those between subject areas. Eleventh graders were somewhat more likely to be held accountable for the accuracy of their work: comments on mechanical errors, errors of fact, and problems in the logic or organization of the piece were more likely to be used routinely at this grade level; suggestions concerning related topics were less likely to be used. This latter shift may reflect a movement away from a teacher-learner dialogue toward an increasing emphasis on the teacher as examiner.

Teachers' responses to writing assignments were also related to their general purposes in giving the assignments. Teachers who stressed the application of concepts were less likely to stress mechanical errors or style, and more likely to be concerned with errors of fact, the accuracy of the conclusions reached, counter-arguments, and related topics. Those concerned with subject area information were similarly likely to be concerned about errors of fact and accuracy of conclusions. They were also more likely than other teachers to consider it important to assign a grade (though no more likely to do so routinely). (Detailed results are summarized in supplementary table 7, appendix 1.)

Other Post-Writing Activities

Table 25 summarizes teachers' reports of their use of several other post-writing activities. The most obvious feature of the results is that little use is made of any of the alternative means of providing students with feedback about their work. Conferences with individual students were reported in regular use by 21 percent of those at grade eleven; even English teachers found time for such conferences in less than a quarter of their classrooms. Providing class time for students to read one another's work, duplicating papers so that everyone could have copies, and publishing in school or class publications were used regularly by no more than 13 percent of the teachers, though English (and to some extent business) teachers were more likely to make use of these techniques than were teachers of other subjects.

Again, uses of these post-writing activities were related to teacher purposes in assigning writing. Teachers stressing subject-area information, as well as those stressing application of concepts, were significantly less likely to arrange individual conferences or to provide class time for students to read one another's work. Those stressing information were also significantly less likely to find outlets for student writing in school or class publications. (See supplementary table 6, appendix 1.)

Though their teachers infrequently sought out broader audiences for student work, the students themselves often did. For their work in English, some 83 percent shared their work with others, most frequently their classmates but also their parents. Writing in the social sciences was less likely to be shared, but even there 48 percent of the students interviewed found broader audiences for their work, again centered on classmates and parents.

Table 25
Teaching Techniques: Post Writing

Technique	Percent of Teachers Using Regularly: Subject Area — English n=140	Foreign Language n=70	Math n=18	Science n=88	Social Science n=99	Business n=56	Grade — Ninth n=224	Eleventh n=236	Chi-square tests[1]: Subject df=10	Grade df=2
Individual conferences	24.1	18.6	0.0	10.2	11.1	16.1	12.1	21.2	36.49***	6.88*
Class time for students to read each others papers	26.4	30.0	0.0	3.4	7.1	10.7	13.4	13.1	84.33***	5.92
Duplicate papers	10.0	7.1	11.1	11.4	13.1	14.3	12.1	11.9	14.82	6.01*
Publish papers	5.7	2.9	0.0[2]	0.0	1.0	7.1	2.7	3.8[3]	71.46***	0.91

Multivariate Analysis of Variance[4]

Effect	Lambda	df	F-Statistic
Subject	.45	55;2003	6.79***
Grade	.93	11;402	2.87**
Interaction	.86	55;2003	1.19

[1]Chi-square tests are based on three-point scales: never, sometimes, regularly.

* p < .05
** p < .01
***p < .001

[2]n=19

[3]n=237

[4]The multivariate analysis is based on the full set of teaching techniques, tables 22, 24, and 25.

That the students seek out audiences for their work suggests they are proud of the writing they have done, that whatever the nature of the instructional situation that led to the writing, they became involved enough in what they were doing to want to share it. One of the English teachers at the city high school commented on the importance of such motivation, and noted in passing how she tied it together with sharing of work:

> Most of the motivation, I think, has to come from getting excited about the ideas in the material, or if they have no relevance for him, and they don't mean anything to him, why he doesn't have much success writing about them . . . And the more he knows, then, the more he likes to write and then I will say to students when I hand back a group of papers or a particular assignment, now, these five or six people did these papers, they are all A and B papers. Why don't you ask them if you can read them and compare their efforts with yours? That works beautifully, I think, too.

A more formal method of involving students with one another's papers involves peer evaluation, but as another English teacher noted, students can be very critical readers:

> I always used to have at least one paper graded by the peer group. I've always had that, because I think that's good. The basic thing you would find is they'd say, I can't read this. Well then, how am I supposed to read it? . . .they are more picky. I think they are more picky on a student's paper. They come for a lot of help. They are more picky than I am about the details in a paper.

Here, of course, the emphasis (as in the teacher's own responses) is on evaluating the student's work, rather than sharing it or working to improve it as an editor or a colleague might.

SUMMARY

This chapter considered the instructional techniques which teachers use when they assign writing, grouping the techniques according to the stage of the writing process with which they are associated.

Prewriting activities were limited. In a typical writing situation, just over 3 minutes elapsed from the time the teacher began to pass out or discuss the assignment until students began to write. This was in part because much of the writing focused on information presented in lessons or textbooks; it was essentially a test of what the student had learned. In most cases students received explicit guidelines only about the length of the paper; there was little discussion of approaches to the topic or of what information should be included in the response. In the majority of the classrooms reported on, however, the students did begin their writing assignments in class, so they could ask questions about what was expected.

If prewriting activities were limited, those designed to help students while they were writing were almost nonexistent. About a third of the teachers simplified the writing tasks by breaking assignments into stages that could be completed one at a time. Just under 30 percent asked for more than one draft of required writing; most accepted the first draft handed in as the final one. Again, this may be because so many of the assignments function as tests of subject area knowledge rather than as explorations of new material.

The major vehicle for writing instruction, in all subject areas, was the teacher's comments and corrections of completed work. Errors in writing mechanics were the most common focus of these responses; comments concerned with the ideas the student was expressing were the least frequently reported.

Within these general patterns, there were significant subject-area differences in the techniques used at each stage of the writing process. In general, teachers of English (and to a lesser extent teachers of

business education and foreign languages) were more likely to provide help with the writing task, while teachers of science, social science, and math were more likely to be concerned with the accuracy of the information and the soundness of the conclusions.

Grade level differences were also apparent, though their magnitude was not so great. In general, ninth graders were given somewhat more help with their writing, and were less likely to be held strictly accountable for the accuracy of their work.

Chapter Six

Highlights of the Study

DESIGN

The study was designed to 1) describe the writing secondary school students are asked to do in six major subject areas, 2) examine teachers' purposes and techniques in making writing assignments, and 3) illustrate the extent to which the characteristics of these assignments varied with subject area, grade level, and patterns of instruction.

The first phase of the study involved 259 observations of ninth and eleventh grade classes in two schools, selected randomly over the course of an academic year. Observers recorded the frequency and nature of student writing in the various subject areas, as well as the patterns of instruction surrounding such writing. Teacher and student attitudes toward writing were also studied, using standardized interview schedules.

In the second phase of the study, a stratified national sample of secondary school teachers reported on their attitudes toward writing, writing tasks assigned, and related instructional activities. The survey questionnaire was designed to make it possible to relate the findings from the intensively studied schools to patterns of instruction in schools nationally.

THE WRITING STUDENTS DO

Observational Study

1. Using a broad definition of writing, an average of 44 percent of the observed lesson time involved writing activities, with mechanical uses of writing (such as short-answer and fill-in-the

blank tasks) occurring 24 percent of the observed time, note taking 17 percent, and writing of paragraph length or longer occurring 3 percent of the observed time. Similarly, homework assignments involved writing of at least paragraph length 3 percent of the time.

2. Writing-related activities were used most often in mathematics, science, and social science classes, where they primarily involved calculations, short-answer responses to study sheets, and fill-in-the-blank and multiple choice exercises.

3. Writing of at least paragraph-length occurred most frequently in English classes (averaging 10 percent of lesson time).

4. Note taking was observed most often (39 percent of the time) in social science classes and least often (less than 6 percent of the time) in foreign language classes.

5. Information from student interviews revealed that informational uses of writing, including note taking, were the most prevalent tasks assigned and that imaginative uses of writing were limited for the most part to English classes--and even

there were reported by less than half of the students.

National Survey

1. In the national survey, teachers in all subject areas surveyed indicated that they made frequent use of at least some writing-related activities; these activities were dominated by note taking and short-answer responses.
2. Writing of at least paragraph length was reported as a frequent activity for tests, homework, or classwork in 27 percent of the classes at grade nine and 36 percent at grade eleven. English classes were the most likely to require such writing.
3. Of the writing samples supplied by the surveyed teachers, 85 percent reflected informational uses of writing. This was virtually the only type of writing in science classes (where it represented 99 percent of the sample), and in English classes it represented about three-quarters of the papers.
4. Both teachers' reports and analysis of the writing samples indicated that the level of abstraction in informational writing increases in the upper grades.

Audiences for Student Work

1. In the observational study, too few writing episodes were seen to draw useful conclusions about similarities

or differences between grade levels and subject areas.

2. In the national survey, the teacher in the role of examiner was the prime audience for student writing in all subject areas. Only 10 percent of the teachers reported that student writing was regularly read by other students. A slightly higher proportion reported some use of writing that was read only by the student, with such uses concentrated in mathematics, science, and social studies classes.

3. Of the writing samples submitted by surveyed teachers, 88 percent were addressed to the teacher as the primary audience. A third of the papers seemed to have been written as part of a teacher-learner dialogue rather than a display of completed learning.

4. Writing as part of such a teacher-learner dialogue was more likely to occur in English and social science classes than in science or business education classes.

5. The most frequent writing task represented in the samples of school writing was analysis directed to the teacher-as-examiner, which accounted for 22 percent of all the writing collected. More generally, 48 percent of the sample was informational writing to the teacher as examiner.

Length of Writing Assignments

1. The typical assignment reported by surveyed teachers included a page or less of writing. However, 47 percent of the English teachers and 20 percent or more of the science and social science teachers reported assigning up to two pages.

   Longer assignments were made occasionally in all subjects, but particularly in English and the social sciences.

PURPOSES FOR ASSIGNING WRITING

Teachers' Attitudes

1. Two major dimensions were found to underlie the reasons that teachers in the national survey asked students to write. The first dimension reflected the extent to which the teacher used writing to foster learning of subject-area information versus to explore the personal or imaginative experiences of the students. The second dimension contrasted teachers who stressed the application of subject-area concepts with those who stressed development of students' writing skills.
2. In the sample as a whole, 70 percent of the teachers emphasized subject-area information in their writing assignments; 16 percent were

primarily concerned with personal experience. Similarly, 44 percent stressed subject-area concepts, contrasted with 24 percent who stressed the development of writing skills.

3. In general, English teachers were more likely to stress personal and imaginative experience, while math and science teachers were more concerned with a combination of subject-area information and the application of concepts in new situations.
4. Business education and social science teachers, as groups, placed some emphasis on subject-area knowledge, and relatively equal stress on writing skills and the application of concepts.

The Writing Students Do, Revisited

1. Writing of at least paragraph length was assigned frequently by 73 percent of the teachers who stressed personal experience, contrasted with 18 percent of those who stressed subject-area information.
2. Similarly, writing of at least paragraph length was assigned frequently by 48 percent of those whose assignments stressed writing skills, compared with only 16 percent of the teachers who stressed application of subject-area concepts.
3. Whatever their specific views about the purposes of assigning writing, teachers in all

groups emphasized informational writing. Within this general pattern, the assignments made by teachers concerned with the application of concepts involved writing at a higher level of abstraction.

4. Personal and imaginative writing were at least twice as likely to be assigned by teachers who stressed individual experience rather than subject-area information, and by teachers who stressed writing skills rather than the application of concepts. These same teachers were also more likely to provide wider audiences for student work, rather than simply reading and marking the papers themselves.

5. Some 82 percent of the teachers surveyed felt that both the subject-area teacher and the English teacher were responsible for the development of student writing skills. Teachers who stressed subject-area information, as well as those who stressed the application of concepts, were less likely to accept this responsibility.

WRITING INSTRUCTION

Prewriting

1. In the observational studies, the time that elapsed from the point at which the teacher

began to make an assignment until students were expected to begin to write averaged just over 3 minutes.

2. Two-thirds of student reports on prewriting activities noted instructions related to form (length and layout of the paper). Other sorts of instructions were rare. Specific hints as to the appropriate content were reported over 25 percent of the time, teacher supplied outlines were reported over 10 percent of the time, and there was occasional discussion of the topic or of model responses. In general, student responses were similar to the observers' findings that prewriting activities typically took about 3 minutes.

3. In the national survey, the most popular technique in helping students get started was to have them begin their writing in class, so that they could ask questions about what was expected if they found themselves in difficulties. This approach was most popular with English teachers, nearly 80 percent of whom reported that they regularly assign writing in this way; it was least likely to be used regularly by math and science teachers (11 and 33 percent, respectively).

4. Model responses for students to examine were used in 29 percent of the classes. They were cited most

frequently by foreign language teachers, least frequently by science teachers. About a third of the English teachers reported regular use of writing models.

5. Brainstorming was reported in regular use by some 37 percent of the English teachers, and by no more than 14 percent in any other subject area.

Writing and Revising

1. In the national survey, nearly three-quarters of the English teachers and half of the business education and foreign language teachers reported regular in-class writing, compared with 25 percent or fewer of the science, social studies, and mathematics teachers. One of the most frequent contexts for in-class writing, however, was the essay exam.
2. Some 29 percent of the teachers reported "regularly" asking students to write more than one draft. This was most likely in English classes (59 percent), least likely in science (7 percent).
3. Use of successive drafts for more than minor editorial changes required help from the teacher for the majority of the students interviewed. In writing for English, only 23 percent claimed to make changes that went beyond spelling, mechanics, usage, or vocab-

ulary choice; in writing for social studies, one third claimed to make such larger changes.

Postwriting

1. The most frequent response to student work was to mark errors in writing mechanics; this was done routinely by 71 percent of the teachers surveyed, and was also rated as one of the most important responses by 47 percent.
2. Responses that directly engaged the ideas that the student was expressing were given routinely by less than a fifth of the teachers.
3. Conferences with individual students about their writing were reported in regular use by 12 percent of the teachers at grade nine and 21 percent at grade eleven. English teachers reported regular conferences in 24 percent of their classes; math teachers did not use them regularly in any of the classes on which they reported.
4. Teachers stressing subject area information or the application of concepts were less likely to arrange individual conferences or to provide time for students to read one another's work.
5. Some 83 percent of the students reported sharing their work in English with others, most frequently with their classmates but also with their parents. Writing in the social sciences was less likely to be shared, but even there 48 percent of the students interviewed found broader audiences for their work, again centered on classmates and parents.

Chapter Seven

Improving the Teaching of Writing

Our study of writing in the secondary school has produced a wealth of information about teacher attitudes and practices related to the teaching of writing in the major subject areas of the secondary school. The detailed findings have been presented in the previous chapters, with brief summaries at the end of each chapter and a final recapitulation in Chapter 6. The longer-range goal of our work, however, is not just to describe what is happening, but to deepen our understanding of the processes involved so that we can suggest directions for improvement--or at least fruitful avenues for future research. In this final chapter, we will hazard some of these interpretations.

WRITING TASKS

It has become a commonplace to say that in order to learn to write better, students should be asked to write more often. In one sense the present work supports this notion. In the observational studies, students were spending only 3 percent of their class time working on essays or other writing of at least paragraph length, and in the national survey 32 percent of the teachers said that they <u>never</u> assigned such writing to the students in the class on which they were reporting. Only 31 percent reported <u>frequently</u> using such writing tasks. (As a national figure, this probably over-estimates the extent to which writing is used, since the teachers were nominated as "good" teachers by their principals, specifically to participate in a study of writing.)

On the other hand, students were engaged in a variety of related activities using written language to record information for later reference by the teacher, themselves, or their fellow students. These activities included such things as multiple-choice and fill-in-the-blank exercises, math calculations, and short-answer responses requiring

only a sentence or two. Analyzed as writing activities, such tasks are characterized by a separation of the problem of constructing coherent text in language appropriate to the subject area from the problem of remembering subject area information and concepts. Essentially, the teacher takes over all of the difficulties inherent in using language appropriate to a subject area--including much of the specialized vocabulary and rules of procedure which are embedded in the text--and leaves the student only the task of mechanically "slotting-in" the missing information.

This is, of course, highly efficient for some purposes, particularly for testing how well a student has learned specific content or skills; and that is the way that many teachers use such mechanical writing activities. Too frequently, however, teachers seem not to realize that the part of the task which they have taken over also involves important skills that are as relevant to the students' subject area learning as to their writing instruction. Language is used differently in the various academic disciplines: vocabularies are specialized, forms of argument and organization are conventionalized, and the typical modes of discourse vary. (We have seen some of this in the subject-area differences in preferred types of writing; these do not polarize into English versus the rest of the world but show characteristic discipline-by-discipline patterns.) To fully understand a science, a student must learn to write within the conventions of the discipline--but too frequently it is only in English class (and there only in the context of literary criticism) that we provide the opportunity for students to write much at all.

Becoming comfortable in the conventions of specialized disciplines is one justification for a shift in the balance of writing exercises

away from the present reliance on easily graded mechanical tasks toward more extensive writing. The other and probably more powerful justification has to do with writing as a tool for exploring a subject. When the task for the student is limited to supplying relatively isolated items of information, or to applying new concepts in the context of highly structured exercises, the knowledge needed can remain isolated and detached. There is little need to relate the knowledge to other aspects of the students' experience, nor even to integrate the various learnings within a single subject area. It is only when students begin to write on their own that the implications of new knowledge begin to be worked through and (as some of the teachers in our study pointed out) that they really come to know the material.

This is because writing can be a powerful process for discovering meaning rather than just transcribing an idea that is in some sense waiting fully developed in the writer's mind. Our language provides a whole panoply of devices that not only convey our meaning to others, but help us develop the meaning for ourselves. These devices take many shapes: they include the buts and the ands and the althoughs that relate one set of information to another; they include the basic syntactic relationships of subjects and objects and predicates; and they include structural devices that underlie larger stretches of discourse--time sequence in narrative, or generalization and supporting detail in exposition.

In our concern with writing as a way to express an idea or reveal subject area knowledge, we tend to overlook the extent to which these devices help us generate new ideas "at the point of utterance." This is perhaps clearer if we think of a complex algebraic problem. All

the terms of the problem are present in our mind, but it is not until we set them down on paper and carry through the steps that most of us can reach an answer. Writing about a complex or unfamiliar question is very similar, though the devices for working out the meaning are linguistic rather than mathematical.

One of the major problems with an overemphasis on mechanical writing tasks is that the students may never learn to use such resources on their own, relying instead upon the structure or scaffold that the teacher has provided.

Unfortunately, even in those contexts where students were being asked to write at some length, the writing was often used merely as a vehicle to test knowledge of specific content, with the teacher functioning primarily in the role of examiner. Although this too is a legitimate use of writing, its relationship to the development of writing skills must be at best tenuous. As we have seen, the teacher-as-examiner can be a very undemanding audience, one willing to interpret what the student meant to say. Teachers are able to do this in large part because they already know what should have been said, and are looking for hints that at least some of the desired material is present. There is a similarity here with the mechanical writing tasks: the text-forming aspect of the task has been minimized in favor of the information that must be cited. And as the text is minimized, so too is the opportunity to use the language resources embedded in that text to more fully explore new ideas.

Because the emphasis is on specific items of information, rather than on the way those items are integrated and presented in coherent prose, such writing situations provide little opportunity for instruction

that might help students develop specific writing skills. For learning to write well, the most effective writing situation will be one in which the effectiveness of the writing matters--where the student can savor the success of having presented a convincing argument, or struggle with the problems of having failed to do so. In such situations the teacher can sometimes intervene directly, helping students develop their writing skills by demonstrating the effects of different methods of organization and presentation. If all that really matters, however, is that the right items of information be cited, then the development of such new writing skills will be essentially irrelevant, and will be ignored by student and teacher alike.

As a first step in improving the writing of secondary school students, then, we need more situations in which writing can serve as a tool for learning, rather than as a means to display acquired knowledge. Bringing this about will take further work in two dimensions. First, practical descriptions of specific techniques and activities that can be successfully incorporated into the various content areas (including English)--descriptions of "good practice" that will make sense to the subject area teachers involved. Second, systematic investigation of the benefits of such activities, in terms both of student writing skills and of subject area knowledge. The research base currently available to teachers of writing does little to demonstrate these benefits, but we believe that they can be shown to be real and powerful.

INSTRUCTIONAL PRACTICES

The most obvious finding to emerge from looking at the instructional techniques adopted to help students with their writing is that very few such techniques are used at all. To some extent this is a function

of the fact that so much of the writing students do is assigned in a test situation, rather than an instructional one. To some extent, too, it comes from a conceptualization of writing as a simple skill which a given student has or does not have. There is little reflection in the practices we observed of recent studies of composing which suggest that writing is a process with a number of distinct stages, each with its own focus and demands (e.g., Emig, 1971; Graves, 1975, Perl, 1979). In the simplest formulation, the stages include prewriting, writing, and editing.

Prewriting is the time during which information is gathered and ideas played with. It may include reading, talking, and simply thinking about a topic. Sometimes it includes an incubation period when initial thoughts are set aside and allowed to coalesce without conscious attention. In real life situations, this stage can extend for weeks or months. Yet in the classrooms observed, only 3 minutes elapsed from the time the teacher began explaining a writing topic until the time students were expected to begin to write. Discussion of the topic was rare, and usually took the form of teacher questions prompting brief student response. Rare too was any gathering and sorting of relevant information, whether through procedures such as brainstorming or through systematic reference work. Indeed, most writing assignments began with the expectation that the student already knew what to say, and could rapidly begin to write.

The writing stage of the composing process is the time when the topic is developed on paper. Getting started on the writing stage is often difficult and painful, producing many false starts and discarded openings. At this stage the concern is with the ideas the writer wants

to express, laying out an argument and its implications, or the basic scenes and storyline in fiction. Not infrequently, these ideas will change in the process of writing about them, and successive drafts will be needed before the various sections of the writing will be fully consonant and supportive of one another.

Again, there is little in current practice that parallels this model of composing. The time span devoted to the writing--like that devoted to prewriting activities--is typically short, beginning part way through a lesson with time "to finish up" at home. Students are rarely asked to write more than one draft, and this first-and-final draft is often surrounded by demands for mechanical accuracy, neatness, and organization. Major revision is frustrated not just by the time constraints, but by the almost universally negative reaction to "messy" papers.

The third stage described in studies of the writing process is that of editing, polishing what has been written to share with a wider audience. This is the stage for attention to mechanical errors, spelling, punctuation, usage, handwriting. It can also be a stage for fine-tuning for a particular audience or to achieve a particular tone. In professional writing, this stage involves the work of an editor, who brings a detachment which is hard to obtain when looking at one's own writing, and whose contributions to the final published piece, though usually unsung, can be very substantial.

In current practice, this may be the stage of writing that is stressed most, though the purpose gets distorted in the process. In natural writing situations, editing is totally motivated by the fact that the writing is about to be shared; the editorial changes are in the service of a polished final manuscript, not private criticisms for the author to read and file away. Teachers' comments on student

papers are in many ways parallel to those of an editor, and it is not unusual for English classes to be taught some of the standard proofreading symbols. But in the classroom, the edited writing is not ordinarily about to be revised; it is simply evaluated for the writer's benefit, to be filed away rather than shared with others. However detailed and constructive a teacher's comments may be, their effectiveness depends upon the extent to which the students read the comments, and upon whether simply reading them is enough to teach a student how to correct the errors. Since students rarely are asked to write another draft, they have few chances to learn how to use an editor's suggestions and revisions to produce a better manuscript.

The composing process probably differs depending upon the type of writing involved, the age and ability of the writer, and the familiarity of the material being written about But even given this variability, the recognition that the writing process has distinct stages provides a useful--and underutilized--perspective in examining classroom practice. Too often, school tasks are structured so that a concern with mechanical correctness interferes with the writing stage, when there are other and more difficult tasks. Similarly, we short-circuit the brainstorming and discussion needed in prewriting, insisting that students "get down to work." And we demand neat and tidy first drafts that allow little room for the students to discover new ideas as they write--ideas which when developed further usually require that earlier parts of an essay be discarded and reworked.

As a second step, then, in the improvement of writing instruction, we need to bring recent work on the nature of the composing process to the attention of a broader spectrum of teachers, to provide them with

a framework for analyzing the contexts within which they ask their students to write. At the same time, we need to test the various hypotheses that this framework generates, systematically validating our intuitions about the ways in which specific instructional techniques will interact with the various stages of the writing tasks which our students undertake.

THE GOOD, THE BETTER, AND THE BEST

The focus of the present study was descriptive, and the instruments and observational procedures were nonevaluative. Yet the staff of the study are themselves experienced teachers, and in the course of some 300 classroom visits developed strong impressions about the nature of the teaching and learning that were taking place. During the course of the year we saw much good teaching, and inevitably saw some lessons where the chemistry was wrong and it seemed that little if any learning was taking place. For our present purposes the lessons that failed completely are of little interest; of more concern are the differences between lessons that gave the impression of a pleasant and effective teaching situation, and those in which that pleasant atmosphere of competence was transformed into something more exciting. After studying and summarizing their logs and records, the observers abstracted the following characteristics from 114 "good" to "best" lessons.

Good Lesson

there is an ordered variety of tasks for students to perform

assignments are clear and their purpose evident

students perform teacher-designated tasks

grades are used as the primary motivation

when assigned, writing is used as a measure of student knowledge or performance

the predominant teaching technique is class discussion, teacher led

Better Lesson

students are actively involved in teacher-designed tasks

the teacher maintains a high level of student interest

the teacher encourages a free flow of give and take

the teacher incorporates student experiences into the lesson

the predominant teaching technique is class discussion, teacher led--but student led discussions are encouraged

students are prepared for writing assignments with prewriting activities such as audio visual presentations or modelling

there is a climate of like and trust between teacher and students.

Best Lesson

students assume an active role in their own learning

the teacher encourages students to explore and discover and seldom dominates the class

students' own experiences are freely incorporated into class discussions

students are enthusiastic about their work

writing is viewed as a means of learning and emerges naturally out of other activities.

In all of the lessons being described, an atmosphere of mutual trust and collaboration had been established. Students and teachers were working together toward similar ends, with minimal conflict or resistance. For the most part, they seemed to like one another. What seemed to distinguish the outstanding classes from the others observed was the nature of the three-way relationship between the teacher, the task, and the student. In the good lessons, the teacher served essentially as a transmitter of knowledge or skill, a wise master of the subject

area imparting that knowledge to a new set of disciples. The tasks set were thus relatively closed; student responses were primarily an attempt to discover the answer that the teacher wanted.

In the better lessons, and even more so in the few that were really exceptional, the students were faced with problems that had to be solved out of their own intellectual and experiential resources. Often they would work together to solve problems posed by the teacher, forcing the students both to articulate their solutions more clearly and to defend them in the face of opposing opinions. The subject of the discussion seemed less important than the openness of the approach; what mattered was the sense that the students could offer legitimate solutions of their own rather than discover a solution the teacher had already devised. Thus the topic of such lessons ranged broadly, from an attempt to reach consensus on an interpretation of Thoreau's Civil Disobedience to an explanation of the principles involved in angular momentum to a discussion of whether abortion should be legalized. When writing assignments followed such lessons, they were greeted with enthusiasm by the students as a way to continue an activity in which they had become deeply involved.

The context for student writing provided by these lessons is a natural one, where the writing is motivated by a need to communicate and valued as an expression of something the writer wants to say. Contrasted with the writing to display knowledge characteristic of the good lessons, it is also more difficult: the writer has to organize and communicate opinions to a reader who does not already know what is going to be said, and may well hold an opposing opinion.

Creating contexts in which writing serves such natural purposes, then, is our third suggestion for improving the teaching of writing;

it is also probably the most difficult to implement. The good and best lessons differ not just in the enthusiasm they provoked in our observers; they also reflect differing philosophies of education, each with long traditions. The best hope of reconciling these traditions is to understand their classroom implications more thoroughly. Certainly in suggesting a shift in emphasis away from writing to display information toward writing to fulfill natural communicative functions, we believe that these natural contexts will foster and support the learning of information and skills that is also needed. Investigating that hypothesis is the next research task.

References

Applebee, Arthur N. (1978a). A Survey of Teaching Conditions in English, 1977. Urbana, Ill.: National Council of Teachers of English.

Applebee, Arthur N. (1978b). Teaching High-Achieving Students: A Survey of Winners of the 1977 NCTE Achievement Awards in Writing, Research in the Teaching of English 12:4 (December 1978), 339-348.

Barnes, Douglas. (1976). From Communication to Curriculum. Harmondsworth, England: Penguin Books.

Barnes, Douglas, and Denis Shemilt. (1974). Transmission and Interpretation, Educational Review 26:3 (June 1974), 213-228.

Bereiter, Carl, and Marlene Scardamalia. (in press). From Conversation to Composition: The Role of Instruction in Developmental Process. In R. Glazer (ed.), Advances in Instructional Psychology, Vol. 2. Hillsdale, N.J.: Erlbaum.

Bracewell, Robert J., Marlene Scardamalia, and Carl Bereiter. (1978). The Development of Audience Awareness in Writing. Toronto, Canada. ERIC Document #154 433.

Britton, James. (1970). Language and Learning. London: Allen Lane The Penguin Press.

Britton, James, Tony Burgess, Nancy Martin, Alex McLeod, and Harold Rosen. (1975). The Development of Writing Abilities (11-18). London: Macmillan Education Ltd. for the Schools Council.

Bruner, Jerome S. (1978). The Role of Dialogue in Language Acquisition. In A. Sinclair et al. (eds.) The Child's Conception of Language. New York: Springer-Verlag.

Bureau of the Census. (1978). Census Georgraphy. Data Access Descriptions No. 33. Washington, D.C.: U.S. Department of Commerce.

Cazden, Courtney. (in press). Peekaboo as an Instructional Model: Discourse Development at Home and at School. Papers and Reports of Child Language Development, Vol. 17.

Cooper, Charles, and Lee Odell. (1977). Evaluating Writing: Describing, Measuring, Judging. Urbana, Ill.: National Council of Teachers of English.

Crowhurst, Marion, and Gene L. Piche. (1979). Audience and Mode of Discourse Effects on Syntactic Complexity in Writing at Two Grade Levels. Research in the Teaching of English 13:2 (May 1979), 101-109.

Donlan, Dan. (1974). Teaching Writing in the Content Areas: Eleven Hypotehses from a Teacher Survey. Research in the Teaching of English 8:2. 250-262.

Eco, Umberto. (1979). The Role of the Reader: Explorations on the Semiotics of Texts. Bloomington, Ind.: Indiana University Press.

Emig, Janet. (1971). The Composing Processes of Twelfth Graders. Research Report No. 13. Urbana, Ill.: National Council of Teachers of English.

Florio, Susan. (1978). The Problem of Dead Letters: Social Perspectives on the Teaching of Writing. Research Series No. 34. East Lansing: Michigan State University Institite for Research on Teaching. ERIC Document #163 492.

Freedle, Roy O. (ed.). (1979). New Directions in Discourse Processing. Norwood, N.J.: ABLEX Publishing Company.

Graves, Donald. (1973). Children's Writing. Ph.D. dissertation, State University of New York at Buffalo.

Graves, Donald. (1975). An Examination of the Writing Processes of Seven Year Old Children. Research in the Teaching of English 9. 227-241.

Halliday, M.A.K. (1977). Learning How to Mean: Explorations in the Development of Language. New York: Elsevier.

Halliday, M.A.K. and Rugaiya Hasan. (1976). Cohesion in English. London: Longman Group, Ltd.

Kinneavy, James L. (1971). A Theory of Discourse. Englewood Cliffs, N.J.: Prentice-Hall.

Kuhn, Thomas S. (1962). The Structure of Scientific Revolutions. Second Edition. enlarged. International Encyclopedia of Unified Sciences Volume 2 Number 2. Chicago and London: The University of Chicago Press, 1970 edition.

Lunzer, Eric, and Keith Gardner. (1979). The Effective Use of Reading. London: Heinemann Educational Books.

Martin, Nancy, Pat D'Arcy, Bryan Newton, and Robert Parker. (1976). Writing and Learning Across the Curriculum 11-6. London: Ward Lock Educational.

Mead, George Herbert. (1934). Mind, Self, and Society. Chicago, Ill.: The University of Chicago Press.

Metzger, Elizabeth. (1976). An Instrument for Describing Written Products. Learning Center, State University of New York at Buffalo. ERIC Document #133 749.

Moffett, James. (1968). Teaching the Universe of Discourse. Boston: Houghton Mifflin. ERIC Document #030 664.

National Assessment of Educational Progress. (1975). Writing Mechanics, 1969-1974. Denver, Colo.: Education Commission of the States.

National Assessment of Educational Progress. (1976). Expressive Writing. Denver, Colo.: Education Commission of the States.

National Assessment of Educational Progress. (1977a). Explanatory and Persuasive Letter Writing. Denver, Colo.: Education Commission of the States.

National Assessment of Educational Progress. (1977b). Write/Rewrite: An Assessment of Revision Skills. Denver, Colo.: Education Commission of the States.

Olson, David R. (1977). From Utterance to Text: The Bias of Language in Speech and Writing. Harvard Educational Review 47:3 (August 1977), 257-281.

Perl, Sondra. (1979). The Composing Processes of Unskilled College Writers. Research in the Teaching of English 13:4 (December 1979), 317-336.

Perron, John D. (1977). Written Syntactic Complexity and the Modes of Discourse. University of Georgia. ERIC Document #139 009.

Renehan, William. (1977). Seven-Year-Olds: Talking and Writing. Victoria: Australian Council for Educational Research.

Rubin, Donald L., and Gene L. Piche. (1979). Development of Syntactic and Strategic Aspects of Audience Adaptation Skills in Written Persuasive Communication. Research in the Teaching of English 13:4 (December 1979), 293-316.

Searle, Dennis James. (1975). A Study of the Classroom Language Activity of Five Selected High School Students. Research in the Teaching of English (Winter 1975), 267-286.

Squire, James R., and Roger K. Applebee. (1968). High School English Instruction Today. New York: Appleton-Century-Croft.

Tate, Gary, (ed.). (1976). Teaching Composition: 10 Bibliographic Essays. Fort Worth, Texas: Texas Christian University Press.

Whale, Kathleen B., and Sam Robinson. (1978). Modes of Student's Writings: A Descriptive Study. Research in the Teaching of English 12:4 (December 1978), 349-355.

Appendix 1

Supplementary Tables:

Supplementary Table 1

Mean Percent of Time

	English		Foreign Language		Math		Science		Social Science	
	Grd 9 n=9	Grd 11 n=9	Grd 9 n=8	Grd 11 n=11	Grd 9 n=10	Grd 11 n=8	Grd 9 n=10	Grd 11 n=9	Grd 9 n=10	Grd 11 n=9
Administration and Transition	19.6	10.8	8.7	13.2	9.1	10.5	14.3	10.8	9.2	32.4
Teacher presentation	0.2	0.0	0.0	5.2	0.6	0.0	6.9	9.0	15.8	12.2
Student presentation	0.0	8.3	3.8	0.4	3.0	1.5	1.4	2.9	0.0	0.6
Class discussion (teacher-led)	30.2	36.1	34.0	49.3	37.8	53.6	15.7	43.6	58.0	54.8
Class discussion (pupil-led)	0.0	0.0	4.3	0.0	0.4	0.5	6.8	11.4	0.0	0.0
Group work	22.7	14.3	2.3	0.0	0.0	0.0	24.7	11.1	7.5	0.0
Individual work	12.1	20.4	10.5	6.2	24.3	30.0	0.0	7.1	0.0	0.0
Correction of exercises	7.7	1.3	6.8	17.0	12.8	2.8	0.9	4.2	0.0	0.0
Test taking	9.9	8.7	27.0	6.0	13.0	1.3	19.5	0.0	9.6	0.0
Other	0.0	0.0	4.3	1.2	0.0	0.0	8.7	0.0	0.0	0.0

N=93 lessons

Profiles of Class Activities: City High School

Supplementary Table 2

Mean Percent of Time

	English		Foreign Language		Math		Science		Social Science		Business Education	Special Education		Other	
	Grd 9 n=16	Grd 11 n=22	Grd 9 n=11	Grd 11 n=6	Grd 9 n=12	Grd 11 n=7	Grd 9 n=8	Grd 11 n=11	Grd 9 n=10	Grd 11 n=9	Grd 11 n=17	Grd 9 n=5	Grd 11 n=9	Grd 9 n=5	Grd 11 n=18
Administration and Transition	15.7	15.3	22.[illegible]	17.1	13.3	9.9	14.6	11.6	22.4	12.9	14.5	12.8	10.7	4.0	14.9
Teacher presentation	2.9	4.8	8.9	10.3	0.0	2.6	16.9	9.3	5.8	13.7	7.8	12.0	0.0	7.6	14.9
Student presentation	0.0	1.7	0.4	4.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Class discussion (teacher-led)	22.4	27.6	48.9	41.7	26.7	37.3	49.6	20.0	16.0	27.8	25.5	25.6	40.4	0.0	23.4
Class discussion (pupil-led)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Group work	0.0	10.7	0.0	1.3	4.3	0.0	6.5	16.5	0.0	0.0	0.0	0.0	0.0	0.0	5.8
Individual work	34.1	32.9	4.0	3.7	36.5	14.2	9.9	28.2	29.4	34.3	39.7	51.6	39.2	88.4	27.4
Correction of exercises	10.0	1.0	12.1	2.3	16.5	28.7	2.5	5.3	10.0	6.0	4.7	0.0	0.9	0.0	8.9
Test taking	16.3	4.1	0.5	19.3	2.0	7.3	0.0	6.5	16.4	5.2	7.8	0.0	6.9	0.0	4.7
Other	0.1	0.5	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

N=166 lessons

Supplementary table 1
Percent of Lesson Time Involving Writing Activities

Activity	Grade:	Mean Percent of Time															
		English		Foreign Language		Math		Science		Social Science		Business Education	Special Education		Other	
		9	11	9	11	9	11	9	11	9	11	11	9	11	9	11
Mechanical Uses																
Laboratory School		12.1	10.9	34.0	7.8	44.8	32.2	25.9	25.9	5.0	0.0					
City High School		18.1	18.4	9.1	16.3	66.3	37.0	2.3	41.5	26.0	17.6	31.5	51.6	53.4	0.0	13.2
Informational Uses																
Note taking																
Laboratory School		2.4	19.2	6.1	7.8	16.2	21.3	22.2	24.1	65.0	42.7					
City High School		4.4	26.5	5.8	0.0	7.7	27.3	45.6	4.9	5.0	44.5	9.5	0.0	0.0	0.0	5.9
Other																
Laboratory School		14.9	14.9	0.0	0.0	0.0	0.0	0.0	0.0	4.6	0.0					
City High School		5.9	4.6	0.0	3.0	0.0	0.0	0.0	0.0	14.6	0.0	2.0	0.0	5.8	0.0	0.0
Personal or Imaginative Uses																
Laboratory School		0.0	7.8	0.2	0.9	0.0	0.0	0.0	0.0	0.0	0.0					
City High School		0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0
Any Uses																
Laboratory School		29.5	52.7	40.4	15.6	61.0	53.6	48.2	50.2	74.6	42.7					
City High School		28.4	50.4	14.9	19.3	73.9	64.3	47.8	46.4	45.6	62.1	43.0	51.6	61.6	0.0	19.1
Number of Lessons																
Laboratory School		9	9	8	11	10	8	10	9	10	9					
City High School		16	22	11	6	12	7	8	11	10	9	17	5	9	5	18

Supplementary table 4

Relationships between Audience and Function in Student Writing

	Percent of Total Sample								
	Record	Report	Summary	Analysis	Theory	Persuasive	Personal	Stories	Poems
Teacher, as part of teacher-learner dialogue	0.3	7.9	4.5	12.5	2.0	0.3	4.2	1.4	0.0
Teacher, as examiner	0.3	9.9	15.3	22.1	0.0	0.6	1.7	2.8	1.7
Wider audience	0.0	2.0	2.8	3.4	0.8	0.3	1.1	1.7	0.3
Number of papers	2	70	80	134	10	4	25	21	7

Supplementary table 5
Relationships between Purposes for Writing and Writing-Related Activities

	Percent of Teachers Reporting Frequent Use						Chi-square test[1]	
	Stress on Information			Stress on Concepts				
Activity	High n=520	Moderate n=101	Low n=120	High n=318	Moderate n=235	Low n=179	Information df=4	Concepts df=4
Multiple-choice or fill-in-the-blank	34.4	29.7	25.0	33.3	32.3	31.3	5.84	0.73
Note-taking	52.5	46.5	51.7	52.8	52.8	47.5	3.46	4.36
Copying, dication, or translation	26.7	25.7	27.5	23.3	27.2	33.(	15.73**	6.87
Calculations	45.4	13.9	9.2	52.2	26.4	14.0	97.30***	93.22***
Short-answer	41.2	50.0[2]	55.0	43.7	44.5[3]	46.9	9.16	0.76
Proofs	19.2	2.9[2]	3.3	20.4	13.1[3]	5.0	49.19***	63.35***
Paragraph-length writing	17.9	58.4	63.3	16.0	38.3	48.0	154.49***	97.12***

* p < .05
** p < .01
*** p < .001

[1]Chi-square tests are based on 3-point scales: not used, used occasionally, used frequently.

[2]n=102

[3]n=236

Supplementary table 6

Relationships between Purposes for Writing and Teaching Techniques

Techniques	Percent of Teachers Using Regularly						Chi-square test[1]	
	Stress on Information			Stess on Concepts				
	High n=278	Moderate n=87	Low n=107	High n=150	Moderate n=178	Low n=144	Information df=4	Concepts df=4
Assignment sheet	34.5	28.7	37.4	37.3	30.9	34.7	2.13	3.27
Model responses	26.6	29.9	36.4	22.7	34.8	30.6	4.66	8.35
Beginning in class, to answer questions	43.5	59.8	68.2	43.3	54.5	59.0	26.53***	7.95
Write in class	37.1	52.9	66.4	36.0	46.1	58.3	42.16***	15.87**
Break assignments into steps	31.7	27.6	37.4	30.7	31.5	34.0	11.56*	1.34
Brainstorming	11.2	26.4	38.3	15.3	21.9	23.6	53.07***	11.67*
Require more than one draft	19.8	34.5	50.5	16.7	29.2	41.7	47.75***	39.45***
Individual conferences	12.9	19.5	23.4	12.7	18.5	18.8	16.98**	16.97**
Class time for students to read papers	5.4	17.2	29.9	8.7	16.9	13.9	56.55***	20.11***
Duplicate papers	11.9	11.5	12.1	10.0	14.0	11.1	1.17	5.09
Publish papers	2.2[2]	2.3	7.5	2.0[3]	5.6	2.1	34.78***	8.16

* p < .05
** p < .01
***p < .001

[1]Chi-squares are based on 3-point scales: never used, used sometimes, used regularly.

[2]n=279

[3]n=151

Supplementary table 7
Relationships between Purposes for Writing and Responses to Student Writing

	Percent of Teachers Indicating						Chi-square test	
	Stress on Information			Stress on Concepts				
Important to[1]	High n=277	Moderate n=86	Low n=106	High n=148	Moderate n=179	Low n=143	Information df=4	Concepts df=4
Indicate mechanical errors	45.8	51.2	52.8	25.0	45.8	75.5	5.57	97.69***
Suggest improvements in style	27.4	40.7	58.5	20.3	39.7	51.7	48.58***	48.26***
Point out errors of fact	54.2	27.9	21.7	57.4	41.9	25.9	46.96***	34.06***
Assess accuracy of conclusion	49.1	41.9	15.1	59.5	41.3	18.9	42.84***	50.17***
Assign a grade	49.1	32.6	20.8	44.6	33.5	41.3	41.30***	5.15
Comment on logic, organization	43.3	55.8	45.3	46.6	43.0	48.3	4.38	1.12
Pose counter arguments	17.0	19.8	20.8	25.0	20.7	9.1	5.83	14.71**
Respond with own views	7.2	11.6	13.2	11.5	9.5	7.0	7.92	2.80
Suggest related topics	14.8	16.3	27.4	21.6	22.9	8.4	9.34	14.85**
Routinely[2]							df=2	df=2
Indicate mechanical errors	65.3	72.1	84.9	56.1	73.7	82.5	14.31***	25.78***
Suggest improvements in style	36.1	52.3	62.3	27.0	49.2	56.6	23.49***	28.41***
Point out errors of fact	59.9	74.4	63.2	64.9	60.3	65.7	5.93	1.20
Assess accuracy of conclusion	51.6	53.5	48.1	52.7	53.1	48.3	0.60	0.87
Assign a grade	69.3	72.1	71.7	66.9	69.8	75.5	0.36	2.70
Comment on logic, organization	52.7	62.8	65.1	54.1	59.2	58.7	6.08*	1.02
Pose counter arguments	30.7	39.5	46.2	38.5	34.6	35.7	8.69*	0.55
Respond with own views	18.4	32.6	44.3	24.3	28.5	27.3	27.97***	0.74
Suggest related topics	25.3	37.2	45.3	30.4	34.6	31.5	15.44***	0.73

* p < .05
** p < .01
***p < .001

[1]Chi-square tests based on 3-point scales.

[2]Chi-square tests based on 2-point scales.

Appendix 2

Strategies for Incorporating Writing into Content Area Instruction

Like reading, writing is a vital part of the learning process and as such deserves a place in every classroom. This bibliography lists materials to help teachers of all subjects integrate writing into their classes. The activities suggested should not only improve students' writing skills but also enhance subject matter learning.

Following a section containing suggestions that may be used in any discipline, the entries in the bibliography are arranged according to the following subject areas: social studies, science and mathematics, physical education, vocational and business education, and English.

The entries were drawn from educational journals indexed in the Current Index to Journals in Education and the Education Index and from works contained in the ERIC system. ERIC documents are identified by their acquisition or "ED" numbers and may be obtained in either microfiche or paper copy from the ERIC Document Reproduction Service; for ordering information, consult a recent issue of Resources in Education.

General Suggestions

Cunningham, Patricia M. and James W. Cunningham (1976). SSSW, Better Content-Writing, Clearing House 49:5, 237-38.

Proposes a way--sustained student summary writing (SSSW)--by which content area teachers can improve students' subject learning and give them practice in writing while not expending a great deal of time in paper grading. The method is based on the techniques of sustained silent reading and requires students to spend five minutes near the end of class writing summaries of the material covered. At the end of the five-minute period, either (1) papers are collected by the teacher and corrected; (2) three students are selected to read their papers aloud; (3) students are paired with each member in a pair reading the other member's summary aloud to him or her; or (4) no follow up occurs. The procedure to be followed could be determined by a toss of a die so that daily activities vary.

Delmar, P. Jay (1978). Composition and the High School: Steps Toward Faculty-Wide Involvement. English Journal 67:8, 36-38.

Outlines a technique for involving a school faculty in teaching writing and offers suggestions for writing assignments in various disciplines. Specific suggestions include writing assignments designed to develop comparison skills in a health class, the use of analysis and illustration in an art class, and the use of persuasion and analysis in a music class.

Fulwiler, Toby E. (1978). Journal Writing Across the Curriculum. ERIC Document number ED 161 073.

Argues that journal writing is an expressive form of writing that teachers in all curricula can use to help their students increase writing fluency, enhance learning, and promote cognitive growth. Notes that journal writing can be assigned as homework, to begin or end a class, or to interrupt/refocus class discussion. Concludes that used in these ways, journal writing acts as a learning catalyst and as a clarifying activity that directs student attention toward a particular subject while providing writing practice and a permanent record to which the student can refer when preparing for a test or in writing a more formal composition.

Giordano, Gerard (1978). A Modular Lesson for Writing Research Papers in Content Area Classes. ERIC Document number ED 176 219.

Describes a modular lesson for teaching the writing of research papers in all content areas. Individual modules of the unit focus on library orientation, use of indexes, overviewing journal articles, selecting

a theme article, assembling the bibliography, writing an introduction, organizing the body of the paper, citing references, and assembling a summary.

McNeil, Elton B. and Daniel N. Fader (1967). English in Every Classroom. Final Report. ERIC Document number ED 016 673.

Reports on a project that called upon every teacher in a school to incorporate writing and reading instruction activities into their lessons. Discusses the elements of that project, specifically, (1) the journal writing component, in which students were issued spiral notebooks in which they wrote every day and which the teacher collected once a week, but read only if requested to do so by the student (grading was based solely on the quantity of writing produced); and (2) the in-class writing component that required teachers to assign five writing exercises every two weeks, one of which was read for content and one filed in the student's folder.

Nichols, James N. (1978). Foiling Students Who'd Rather Fake It than Read It or How to Get Students to Read and Report on Books, Journal of Reading 22:3, 245-47.

Offers five suggestions for differing the format of the traditional book report that may be used in a variety of content areas. The five are: a test format, which calls for students to pretend to be English teachers and to make up a test over an assigned book; the letter technique, in which a student takes the role of a character in a book and writes letters to another character; the newspaper technique, which requires students to report key incidents from a book as news articles; the game format, which allows students to develop a game based on the book; and the diary or journal format in which students write about incidents from a book and their responses to the book.

Shannon, Edith, and others (1979). How Some Teachers Teach Writing, Today's Education 68:3, 32-40.

Offers suggestions from teachers of social studies, English, mathematics, and science about the teaching of writing within their content areas. Suggestions include giving attention to individual needs; using the "why and because" method; teaching term paper skills; developing thinking abilities; strengthening essay writing skills; making writing important, interesting, and successful in science classes; and reviewing grammar in mathematics classes.

Smelstor, Marjorie, ed. (1978). A Guide to Teaching the Writing Process from Pre-Writing to Editing. ERIC Document number ED 176 274.

Suggests activities to use in teaching the three stages of the composing process: prewriting, writing, and postwriting. Discusses the steps involved in the three stages of composition, research findings in the composing process, and student needs and instructional goals. Offers ideas for specific writing activities for use in the areas of mathematics, English, science, home economics, the fine arts, social studies, and business.

Social Studies

Alexander, Mary and Cece Byers (1979). Document of the Month: Writing a Letter of Appeal, Social Education 43:3, 198-99.

Presents an actual letter of appeal drawn from the National Archives and suggests exercises such as having students write a paraphrase of the letter that would be analyzed for clarity, style, and tone; write a similar letter; or write a paragraph discussing the letter as a historical source.

Beyer, Barry K. (1979). Pre-Writing and Rewriting to Learn, Social Education 43:3, 187-89.

Describes prewriting and rewriting exercises designed to help students prepare a polished social studies paper. Calls upon questioning strategies, games, simulations, and values education strategies as sources for focusing student attention on the topic.

Beyer, Barry K. and Anita Brostoff (1979). The Time It Takes: Managing/Evaluating Writing and Social Studies, Social Education 43:3, 194-97.

Suggests methods to help social studies teachers integrate writing into courses along with and instead of oral activities. Offers ideas that allow students to write to generate hypotheses for class study, to develop goals for reading, to find information, to discover new insights into a subject, to begin a class, or to end a class. Suggests ways to evaluate student writing that save teacher time.

Brostoff, Anita (1979). Good Assignments Lead to Good Writing, Social Education 43:3, 184-86.

Notes that carefully designed writing assignments not only enable students to show what they have learned but also foster effective writing and learning through writing. Presents suggestions for preparing good social studies writing assignments, including defining the content and skills that students are expected to learn, devising assignments in which the level of difficulty of the task fits the level of the goal, letting students speculate on the topic, and presenting the topic in such a manner that students know what to do and how to do it.

Davis, Nelda (1966). How to Work with the Academically Talented in the Social Studies. How to Do It Series, Number 21. ERIC Document number ED 083 055.

Provides suggestions for dealing with academically talented students in social studies classes. Recommends using an unsolved problem of

history to interest students in preparing research papers. Suggested topics include the intention of the framers of the Sherman antitrust law in regard to labor unions, the safety-valve theory in regard to western lands, the role of Mrs. Surratt in the Lincoln assassination, and the motivation behind the activities of John D. Rockefeller.

Giroux, Henry A. (1979). Teaching Content and Thinking through Writing, Social Education 43:3, 190-93.

Offers a procedure that actively involves students in discussing, analyzing, and writing about social studies course content. The activity requires several class periods and uses material from a standard textbook. Its intent is to familiarize students with the concepts of "organizing idea" and "frame of reference" and calls upon them to organize paragraphs supporting a given idea by using pieces of information drawn from their reading.

Klasky, Charles (1979). World Geography--Believe It or Not!, Social Education 43:1, 34-35.

Describes a week-long geography project based on Ripley's Believe It or Not books that helps students develop a greater understanding of different cultures. Students spend three days researching unusual or different cultures and two days writing and assembling a booklet on some aspect of their research. Contends that the assignment forces students to decide what is "unusual" or interesting and promotes discussions of ethnocentrism, causing students to examine their own values and prejudices.

Niskayuna Central School District 1, Schenectady, New York (1979). Integration of Content and Problem Solving Skills. ERIC Document number ED 179 479.

Designed to help teachers learn how to integrate content and problem solving skills in the social studies curriculum. Problem solving skills include analyzing an in-depth question/problem, selecting a format for recording information, gathering and recording information, and writing a summary. Presents student analysis of a question that involved labeling nouns, verbs, and limiters; defining unfamiliar words; and restating the question.

Petrini, Glenda C. (1976). Teach Johnny How to Write for Social Studies Essay Tests, Clearing House 49:9, 394-96.

Advances a technique for teaching social studies students to write that is based on Harold Herber's Teaching Reading in the Content Areas and on the Umbrella Form of paragraph organization devised by Dorothy Rich. The exercise familiarizes students with the writing patterns of cause/ effect, compare/contrast, chronology, main idea/detail, and enumeration compositions. It requires students to write five-sentence paragraphs, each with a topic sentence; three sentences supplying proofs, details, examples, or reasons; and a concluding sentence.

Rivers, Larry E. (1979). Indentured Servitude in Colonial America: Teaching Social Studies and the Basic Skills, Social Education 43:3 214-17.

Presents a two-day lesson integrating the basic skills of reading, writing, and critical thinking with social studies content. The lesson requires students to list information they have gathered, write a main idea, and then write a well-structured paragraph based on rewriting exercises.

Van Nostrand, A. D. (1979). Writing and the Generation of Knowledge, Social Education 43:3, 178-80.

Contends that a student gains knowledge through the act of writing as he or she joins bits of information into a whole. Presents a model for scanning students' written material to determine the ways ideas are related. Notes that the value of a piece of information depends on how the writer joins it with other information.

Ventre, Raymond (1979). Developmental Writing: Social Studies Assignments, Social Education 43:3, 181-83, 197.

Presents guidelines for developmental writing in social studies and a sample assignment that involves writing letters about historical figures. Suggests that the letters be critiqued by three student peers and that the critiques stress the writer's ideas. Discusses the relationship between the thinking process and the writing process and the need to break these processes into manageable units for students.

Science and Mathematics

Davies, Brian (1976). Physics Lectures and Student Notes, Physics Education 11:1, 33-36.

Relates a strategy that allows teachers to rate their effectiveness by examining their students' lecture notes, which the students have recorded on carbon paper. Contends that through this technique teachers are able to determine communication problems that may occur.

Donlan, Dan (1975). Science Writing: A Call for Continuing Education, Science Teacher 42:10, 19-20.

Suggests that science teachers introduce students to the variety of styles appropriate to writing reports of a historical, analytical, descriptive, or biographical nature. Proposes that teachers use a method of diagramming of paragraphs to show students how material is organized from a topic sentence. Advocates the use of more than one source or of controlled sources for reports in order to promote student originality in writing.

Ellman, Neil (1978). Science in the English Classroom, English Journal 67:4, 63-65.

Argues for an interdisciplinary approach to instruction. Lists five ways of increasing interpersonal contact among faculty members and offers suggestions for reading and writing assignments that would integrate science and English instruction. Writing suggestions include having students write conversations with or letters to famous inventors, letters to the editor about problems caused by technology, mystery stories in which the solution depends on a scientific principle, and futuristic scenarios.

Geeslin, William (1977). Using Writing about Mathematics as a Teaching Technique, Mathematics Teacher 70:2, 112-15.

Proposes a technique for writing about mathematical concepts as a means of increasing student understanding of those concepts. The technique involves the gradual introduction of writing into assignments and has students explain in one or two sentences how addition and subtraction are related, then write a paragraph or two discussing a single concept, and, finally, write about the relationship between two concepts such as equation/graph, line/plane, circle/elipse, or point/line.

Maxwell, Rhoda and Stephen Judy (1978). Science Writing in the English Classroom, English Journal 67:4, 78-81.

Reports on a team teaching project that was designed to integrate science writing and creative writing by having students prepare books on scientific topics in an imaginative manner.

Reid, H. Kay and Glenn McGlathery (1977). Science and Creative Writing, Science and Children 14:4, 19-20.

Contains a list of 33 creative writing activities that can be coordinated with various elementary or middle school science units. The activities include studying clouds and writing about what is seen, writing the history of earth from the perspective of a being from outer space, and writing about the needs and feelings of a jungle animal that has been placed in a new environment.

Schlenker, Richard M. and Constance M. Perry (1979). A Writing Guide for Student Oceanography Laboratory and Field Research Reports. ERIC Document number ED 178 332

Presents activities designed to improve the writing and composition skills of oceanography (or other science) students. Provides suggestions for keeping a field notebook and offers a format for the preparation of a research paper.

Shapland, Jeff and Phil Watson (1976). Beyond the Worksheet, Times Educational Supplement n3199, 20-21 (Sept. 24, 1976).

Contends that the act of writing about ideas that are important to students is of greater importance to their learning than filling out worksheets and proposes the use of a chemistry journal in which students write about their activities and the ideas they have come across. Notes that, apart from the direct benefits of such writing, the journals can be used to assess student strengths and weaknesses more clearly than can worksheets.

Wilkes, John (1978). Science Writing: Who? What? How?, English Journal 67:8, 56-60.

Proposes the use of written dialogues as a means of developing the writing skills of science students. The dialogues dramatize conversations about scientific developments and involve a scientist and an intelligent, eager-to-learn listener.

Zimmerman, S. Scott (1978). Writing for Chemistry: Food for Thought Must Be Appetizing, Journal of Chemical Education 55:11, 727.

Presents several suggestions for improving the technical writing skills of students in chemistry that range from organizing a first draft through preparing a final revision.

Physical Education

Georgia State Department of Education, Atlanta. Office of Instructional Services (1978). A Reading Program for the 70s: Physical Education ERIC Document number ED 166 660.

Describes activities that promote perceptual motor development and that link language arts experiences. Among the writing activities for students in grades six through eight are making a sports dictionary, writing about the characteristics of sports figures, and writing about various aspects of physical education.

Metcalf, James (1979). Teaching Writing in Physical Education, Journal of Physical Education and Recreation 50:9, 38.

Argues that physical education offers many untapped opportunities for teaching writing and for making students feel good about writing. Notes that motor experiences and somatic sensations are peculiar to that discipline and that these experiences and sensations can provide rich sources of writing topics. Suggestions for integrating writing into the physical education classroom include: assigning each student to a writing group so that writing can be shared, making writing assignments short and unstructured, responding to student writing to show that it is valued, having students revise their work, encouraging students to keep their work, showing an interest in one's own development as a writer, and encouraging colleagues to join in the effort.

Turner, Bud (1977). PE Journal, Journal of Physical Education and Recreation 48:5, 56-7.

Reports on a journal writing activity in which students write about the goals they want to reach in physical education and the activities they are to take part in as they strive for those goals. The journals consist of manila folders containing activity sheets, each of which provides space for the students to write about key words they have learned during an activity, accomplishments they are most proud of, and books or magazine articles they have read on a particular activity.

Vocational and Business Education

Handorf, James L. and Donald A. Nelson (1970). Student Success with Creative Composition, Business Education Forum 25:2, 10.

Reports that the use of statements that encourage creativity as prompts to composing at the typewriter achieve more positive responses from students in typing classes than traditional prompts. Sample assignments include having students write about how they would feel if they were an object or an animal, complete "what if..." statements, and respond to letters to "Dear Abby."

McLeod, Alan (1978). Stimulating Writing through Job Awareness, English Journal 67:8, 42-43.

Suggests 34 oral and written activities involving jobs that can be used to motivate students to write, including responding to want ads in newspapers, writing letters of recommendation, exploring the impact of oral and written language on prospective employers, writing newspaper stories about people and jobs, and writing autobiographies emphasizing employment.

Turner, Thomas N. (1979). A Stylish Wedding: Infusing Career Education into Creative Writing and Composition, English Journal 68:7, 59-62.

Lists 50 activities that permit career education students to learn about a specific field in which they have an interest as well as to use their creative and expository writing skills. Specific suggestions include writing job descriptions of real or fantasy jobs, writing letters from the point of view of fictional characters about their career needs, and writing a script for a job interview between an employer and a prospective employee who have a personality conflict.

Williams, Wayne (1976). Oh No! Not Another Term Paper--A Research Assignment in Economics. Balance Sheet 58:3, 117, 139.

Outlines projects that have been particularly successful in bridging the gap between classroom economics knowledge and community activities. Writing assignments include having students discover and write about how local businesses are affected by current economic conditions, write a history of a local business, assess the value of mass transit, examine the question of penal reform, and examine the local system for urban planning.

Winger, Fred (1975). Typewriting Composition Projects with an Occupational Thrust, Business Education Forum 29:7, 6-7.

Lists 13 projects that encourage thinking and composing at the typewriter. Among the projects are three that call for students to write compositions justifying their presence in a typing class, to analyze the ways in which businesses would be affected if the typewriter did not exist, and to research and write about whether the number of clerks and secretaries will decrease in the future.

Zimpfer, Forest (1976). Typewriting: A Model for Building Composition Skill, Business Education Forum 31:2, 14-16.

Presents teaching techniques and a model to improve writing skills as well as typing skills. Various assignments call for students to compose personal essays, compile research papers, and write job application letters. Topics are supplied by the teacher and are based on student interest.

English

Benson, Marion (1977-78). Poetry as a Stimulus to Writing, English Quarterly 10:4, 45-53.

Presents a technique that uses students' responses to poetry as a tool for developing writing skills and literature appreciation. Activities include having students write about personal experiences to illustrate the main idea of a poem; having them explain how elements such as simile, metaphor, alliteration, and allusion contribute to the expression of an experience; calling for critical interpretation addressed to specific points about a poem; assigning comparison and contrast themes; and having students write their own poems.

Bramer, Mary (1975). With Thanks to Edgar Lee Masters, English Journal 64:6, 39-40.

Describes a poetry writing project that called for students to research local historical figures and write their epitaphs in the style of Edgar Lee Masters' Spoon River Anthology.

Carlisle, Elizabeth and Judithe Speidel (1979). Local History as a Stimulus for Writing, English Journal 68:5, 55-57.

Details a humanities course that was designed with a focus on careful, precise observation as the basis for increasing understanding and for producing effective writing. Describes the major assignment, which required the students to imagine that they were historical characters from their hometown and to keep journals of their daily activities. Reports that such writing engaged many facets of the students' lives, including their sense impressions, emotions, intellectual curiosity, and fantasies.

Foster, Mary Ellen (1976). Design in Art and Literature: Drawing Students into Writing, English Journal 65:6, 64-67.

Describes a strategy that allowed students to use a project in design as a means of improving their writing and of understanding the writing process. The technique involved having students design a toy, game, recipe, tool, or dance and then write about the process of creating the design. It also involved having them use the letters of their names to learn that letters and words have a design, and then extending this to show that stories and poems also have an underlying shape.

Hyland, Gary (1977). Accreditation Ideas, English Quarterly 10:1, 55-72.

Lists teaching ideas for various aspects of English and the language arts. Among the writing ideas are: have students write narratives in which ordinary objects from around the house become clues for a mystery or aids for escaping from prison, set up a situation in which someone has to write in order to communicate with others, explain denotation and connotation and then have students rewrite a neutral paragraph with a specific connotation, have students write descriptions of commonplace objects without mentioning their name or function, and have students select three magazine pictures and use them as reference points around which to build a short story. Also offers suggestions on evaluating student work and optional creative writing assignments.

Insel, Deborah (1975). Foxfire in the City, English Journal 64:6, 36-38.

Describes a "Foxfire"-inspired project that allowed high school students in an urban area to write a social history of their community drawn from information obtained in interviews with senior citizens in the community.

Kahl, Marilyn, and others (1976). Potpourri '76: A Collection of Teaching Ideas for Elementary and Secondary Schools. ERIC Document number ED 131 479.

Offers a variety of suggestions for writing assignments including having students keep "psychological logs" that recreate the three main processes involved in the creation of a work of art, write dialogue, create a conversation with William Shakespeare or write about the contributions of a minor character to one of his plays, write a critical analysis of Great Expectations, write short stories, and write autobiographies.

Kitzhaber, Albert R. (1966). Twentieth Century Lyrics. Science and Poetry. Literature Curriculum IV, Student Version, ERIC Document number ED 010 819.

Presents materials for use in teaching modern poetry and in comparing it to scientific writings. Discusses the similarities and differences between scientists and poets in their approach to experience. Offers several writing assignments that illustrate each's point of view, including having students research and write about various scientists' use of imagination that led them to make important discoveries; write about Shelley's use of scientific facts in his poem, "The Cloud"; write a paragraph from an objective point of view and then from a subjective point of view; and write a description of an object (a rose, a sea shell) as a scientist would see it and then as a poet might see it.

Kohl, Herb (1978). Imaginary Voyages, Teacher 95:6, 12-19.

Advances an approach that uses themes arising from childhood fantasies and imaginary voyages for developing writing and discussion skills in elementary (or older) children. Suggests the reading of Don Quixote, Gulliver's Travels, The Odyssey, Pilgrim's Progress, and the myth of Orpheus to stimulate writing and discussion.

Laubach, David (1979). Beyond Foxfire, English Journal 68:5, 52-54.

Extends the Foxfire concept of collecting and writing folk lore and cultural history to include analyzing the material collected to determine what it says about the folk group, what it says about the informant, and the possible symbolic or unconscious ideas embodied in the lore. Lists 12 possible projects, including: collecting and writing about a series of folk beliefs, legends, or ethnic jokes from a single informant or from an occupational folk group; finding and writing about local crafts-people who still practice traditional methods; writing short sketches with a great deal of dialect or a dramatic scene in which the folk speech of a particular group is captured; writing a poem or short story based on a folk superstition; and writing a fictionalized sketch in which a particular folk group is shown celebrating a holiday or enjoying an annual event that is peculiar to that group.

Lowery, Sh[illegible] (1978). The Photography Connection: Picture Taking and the Craft of Writing, Media and Methods 14:8, 69-72.

Reports on a teaching approach that calls upon the language of photography to help students become more proficient writers. Stresses that like a good photograph good writing takes time and skill and that like a good photograph a good essay makes an abstract idea concrete and the ordinary important.

Moore, Joseph B. (1978). A Writing Week, English Journal 67:8, 39-41.

Demonstrates how students might be asked to write in class instead of doing routine drills. Provides the following outline of lessons in preparing a composition: Monday: students brainstorm for ideas, choose topics, and work on first draft; Tuesday: students continue work on first draft; Wednesday: students read each other's first drafts and each student is given one paper to take home and evaluate in one paragraph; Thursday: students discuss their evaluations with the evaluators and begin second draft; Friday: students discuss their work and begin third draft.

Raybin, Ron (1970). The Technique of the Infelicitous Alternative. ERIC Document number ED 049 249.

Proposes changing crucial characteristics of a literary work and presenting students with unsuitable alternatives as an effective means of leading them to the discovery of the artistic appropriateness of the original. Suggestions for use in teaching composition include: having the class discuss dittoed paragraphs that ineffectively repeat words and phrases to illustrate the importance of variety in writing style; having the class write intentionally disorganized paragraphs to discover what coherence or unity is; and teaching the importance of transition by altering or removing them from sample paragraphs.

Small, Robert, Jr. (1979). The YA Novel in the Composition Program, Part II, English Journal 68:7, 75-77.

Presents more than 60 ways to use the young adult novel to enrich the composition program, including having students choose the books they would most like to have with them if they were stranded on a desert island and explain their choices, write book reviews from another person's viewpoint, and write scenes in which the main characters from two novels meet.

Treeson, Ruth H. (1978). Keeping the Arts in Language Arts, Curriculum Review 17:3, 189-92.

Argues that bringing the arts into the English classroom will help students to rediscover within themselves the ability to share their own experiences, thoughts, and feelings in writing. Delineates a teaching approach that uses songs and photographs to teach description, narration, techniques of organization and of style, argument, exposition, and point of view.

Wiseman, Nell (1979). A Unit for Writing Children's Stories, English Journal 68:5, 47-49.

Describes a six-week unit on writing children's stories that was successful in motivating high school students to write and in increasing their awareness of audience. Discusses the weekly activities involved, including having the students recall their own favorite children's books and stories, having them read a variety of children's literature, arranging to have the students visit elementary school classes and read published stories during story hour, and having students prepare a final version of their own stories for reading to the elementary school students.

Appendix 3

Log of Class Activities:

1. Activity Log
2. Codebook: Profiles of Observed Activities
3. Code Sheet: Profiles of observed activities

TIME	ACTIVITY	T	P

Codebook: Profiles of Observed Activities

School (Sch): Identification number of school

Teacher (TCH): Identification number of teacher

Lesson (Ln): The cumulative total of separate lessons that have been visited for a particular teacher, pooled across all class groups which are being visited. If 2 observers are present, the lesson number still augments only 1.

Observer (obs): Identification number of observer

Number of observers (Nobs): The number of observers present for this lesson

Grade (GRD):
1 ninth
2 tenth
3 eleventh
4 twelfth
6 mixed grades

Use to indicate predominant group (at least half of the class list).

Subject Area (SUBJ)
Code according to course content, not according to departmental structure in the school

00 Special/supportive education (general)
- 01 English emphasis
- 02 Math emphasis
- 03 Social studies emphasis
- 09 Other specific emphasis

10 English (general)
- 11 Literature emphasis
- 12 Reading
- 13 Drama or media
- 14 Grammar
- 15 Writing emphasis
- 16 Expository writing
- 17 Creative writing
- 18 Journalism (include yearbook, school paper)
- 19 Other specific emphasis

20 Foreign languages
- 21 French
- 22 German
- 23 Spanish
- 24 Russian
- 25 Latin

30 Mathematics (general)
- 31 Algebra
- 32 Geometry
- 33 Trigonometry
- 34 Calculus
- 35 Advanced math (beyond calculus)
- 36 Computer science
- 39 Other specific emphasis

40 Science (general)
- 41 Biology (including anatomy)
- 42 Environmental science
- 43 Chemistry
- 44 Physics
- 45 Geology (including earth science)
- 49 Other specific emphasis

50 Social Studies (general)
- 51 U.S. history
- 52 World history
- 53 Contemporary problems
- 54 Sociology
- 55 Psychology
- 56 Economics
- 59 Other specific emphasis

60 Art and Music
- 61 Art and design (activity emphasis)
- 62 Art and design (history/theory)
- 63 Music (activity emphasis)
- 64 Music (history/theory)

70 Business Education (general)
- 71 Typing
- 72 Clerical and short-hand
- 73 Marketing/management/salesmanship
- 79 Other specific emphasis

80 Career education (general)
89 Emphasis on specific occupation

90 All other classes
91 Physical education
92 Home economics
93 Industrial arts
94 Agriculture
99 Other specific non academic courses

Track (TRK): 1 high (including advanced placement classes, all laboratory school classes)
2 average
3 low
4 remedial (including LD, EMH)
7 heterogeneously grouped
9 unknown

WEEK: The week of observation numbered sequentially from the first week

DAY: The day of the week (1 Monday, 2 Tuesday, . . .)

Class Size (CLSZE): Count of students present for all or part of the class period

Administration and Transition (A&T): Minutes of non-instructional activities under the teacher's control. Examples include taking attendance, handing out materials such as papers or homework, explanations of work assignments or course requirements, setting up audio-visual aids, or preparation for other activities (e.g., dividing the class into groups). In addition, activities occurring during teacher-designated "free time" are rated as A&T. Do not include interruptions which the teacher cannot control (e.g., firedrill).

Teacher presentation (TP): Minutes of presentation of course-related information by the teacher to the students in a lecture format. Characteristically, the emphasis is placed on the teacher, rather than the student. TP is often interspersed with periods of CD-TL (see below). Audio-visual aids used to supplement instruction are included in this category.

Student presentation (SP): Minutes of formal presentation of content materials by a student. Examples include oral reports, speeches, or demonstrations. Emphasis is on the student, rather than the teacher.

Class discussion-teacher led (CD-TL): Minutes of discussion of course-related material by the students with the teacher's guidance. The level of guidance may range from structured instances where students directly answer the teacher's questions, to instances where discussion is less structured and the students respond to each other's remarks. However, in all instances student participation is emphasized.

Teacher-led teacher questions (TTQ): Number of questions asked by teacher during CD-TL.

Teacher-led pupil questions (TPQ): Number of questions asked by pupils during CD-TL.

Class discussion-pupil led (CD-PL): Minutes of discussion of course-related material by the class under the direction of a pupil. The other features described in the class discussion-teacher led category apply here. An example is a question and answer period following a report.

Pupil-led teacher questions (PTQ): Number of questions asked by teacher during CD-PL.

Pupil-led pupil questions (PPQ): Number of questions asked by pupils during CD-PL.

Group work (G): Minutes during which the class divides into smaller groups in order to work on or discuss a common task. The groups may be led by either a student or the teacher. Examples include committee or team tasks, pair work, and lab work involving more than one student at each work station.

Group size (GSZE): The mean group size.

Individual work (I): Minutes when each member of the class is working independently. The teacher may define the task but does not control its execution. Examples include solving problems, individual writing activities (e.g., essays, poems), doing homework in class, and lab work involving a single student. Typically, verbal interactions are minimal.

Correction of exercises (CX): Minutes of teacher-led correction of exercises, such as tests and homework, with the class as a whole. Students may or may not participate verbally. This category differs from the discussion and presentation categories in that it is restricted to the material covered in the exercise (no new information is provided). If new information is interspersed, code as CD-TL.

Test/quiz (test): Minutes of formal measurement of students' knowledge, designated by the teacher as such, in written form. The types of writing activities called for in the test are recorded separately.

Other (OTH CA): Minutes of teacher-controlled class activity not classified elsewhere.

Total (TOT CA): Total minutes of class time observed; omit time not under the teacher's control (e.g., firedrills).

Grammar: Minutes of instruction or exercise work in grammar as a formal body of knowledge.

Usage: Minutes of Instruction in proper English usage, including as hoc references to English grammar.

Punctuation and capitalization (Punc/Cap): Minutes of instruction punctuation and capitalization.

Spelling (Spell): Minutes of instruction in English spelling.

Organization (Organ): Minutes of instruction in principles for organizing paragraph length or longer writing.

Time Devoted to Writing Activities: Minutes of observation during which students are working on writing tasks of any sort are recorded in the categories below. The measure is of class time devoted to each activity, not of the actual amount of time spent writing (as opposed to thinking about answers, daydreaming, and so on).

Multiple choice exercises (Mch)

Fill-in-the-blank (FBlnk): answered with less than a sentence.

Short answer (ShAns): Brief, one or two sentences per question.

Math calculation (Calc): Any computations.

Transcription from a written source (Transc-W): Examples would include copying from the board or from a textbook.

Transcription from an oral source (Transc-O): Taking dictation.

Translation (Transl): Written translation from or into a foreign language.

Notetaking (Notes-O): Taking notes from an oral source (e.g., teacher lecturing, a recording, a film).

Notetaking (Notes-W): Taking notes from a written source (e.g., reference material).

Notetaking (Notes-S): Taking notes about students' own activities, as in some diary entries.

Notetaking situation (Notesit):
0 Notetaking not relevant
1 Teacher requests that students take notes
2 Teacher suggests that students may wish to take notes
3 Teacher does not mention notes during the lesson
4 Notes are taken by a recorder or secretary on behalf of a group of two or more

Number of students taking notes (Nnotes): A count of the number of different students who take notes at any point during the lesson. Exclude copying of homework assignments.

Record: Recording of on-going experience. This is what is happening.

Summary: A retrospective account or summary of particular events or series of events or steps in a procedure. This is what happens; this is the way it was done.

Generalized narrative (GNarr): describes a recurrent pattern of events or steps in a procedure. This is what happens; this is the way it is done.

Analysis: Analysis of a situation, problem, or theme. Classification and categorization, with logical or hierarchical relationships among generalizations implicit or explicit.

Theorizing (Theory): Building and defending at a theoretical level, including implicit or explicit recognition that there are alternative perspectives. Hypotheses and deductions from them.

Other informational uses of language (Info-O).

Journal or diary writing, for own use (Jrnl).

Personal letters or notes (PLett): Main purpose is keeping in touch.

Notemaking (Notes-T): As a preliminary stage in writing or thinking.

Other uses of personal writing (Person-O).

Satire

Story

Poem

Play

Any other artistic uses of writing (Art-O).

Persuasive uses of language (Persuade): Any instance in which the attempt to convince overrides other functions.

Any other uses of written language (Write-O).

Homework (HW): Coded with two-digit number from "Types of Writing" code sheet.

Writing Episodes (NEpisodes): Number of different writing episodes observed in class session.

Writing samples (Wsamples): Number gathered from class session.

Period of the day (PerDay): 1 period one, 2 period two, . . .

Class composition (ClComp)
1 Class includes only group indicated for GRD
2 Class includes group indicated for GRD, plus older
3 Class includes group indicated for GRD, plus younger
4 Class includes group indicated for GRD, plus older and younger

Restricted uses of Writing (ResW-O): Minutes of restricted or mechanical uses of writing, not coded elsewhere.

Types of Writing

10 Restricted uses of writing

11. Multiple-choice exercises.

12. Fill in the blank exercises (answered with less than a sentence).

13. Short answer exercises (brief, one or two sentences per question).

14. Math calculations.

15. Transcription from written material.

16. Transcription from oral sources.

17. Translation

18. Other restricted uses.

20 Informational uses of writing

21. Note taking from what others have said.

22. Note taking from what others have written.

23. Recording of on-going experience. (This is what is happening.)

24. Retrospective account or summary of particular events or series or events. (This is what happened.)

25. Generalized narrative, describing a recurrent pattern of events or steps in a procedure. (This is what happens; this is the way it is done.)

26. Analysis of a situation, problem, or theme. Classification and categorization, with logical or hierarchical relationships among generalizations implicit or explicit.

27. Theorizing. Building and defending at a theoretical level, including implicit or explicit recognition that there are alternative perspectives. Hypotheses and deductions from them.

28. Other informational uses.

30 Personal uses of language

31. Note-taking. As a record of what one has done.

32. Note-making, as preliminary stage in writing or thinking.

33. Journal or diary writing, for own use.

34. Personal letters or notes, where main purpose is "keeping in touch."

35. Other personal uses.

40 Artistic uses of language

41. Satire.

42. Stories.

43. Poems.

44. Play scripts.

45. Other artistic uses.

50 Persuasive uses of language. (Any instances in which the attempt to convince overrides other functions.)

60 Any other uses of language

Code Sheet: Profiles of observed activities

Sch (1) _
TCH (2) _ _
Ln (4) _ _
Obs (6) _ _
Nobs (7) _
GRD (8) _
SUBJ (9) _ _
TRK (11) _
WEEK (12) _ _
DAY (14) _

CLSZE (15) _ _
A&T (17) _ _
TP (19) _ _
SP (21) _ _
CD-TL (23) _ _
TTQ (25) _ _ _
TPQ (28) _ _
CD-PL (30) _ _
PTO (32) _ _ _
PPQ (35) _ _
G (37) _ _
GSZE (39) _ _
I (41) _ _
CX (43) _ _
Test (45) _ _
OTH CA (47) _ _

TOT CA (49) _ _
Grammar (51) _ _
Usage (53) _ _
Punc/Cap (55) _ _
Spell (57) _ _
Organ (59) _ _
Vocab-G (61) _ _
VG-def (63) _ _
VG-use (65) _ _
Vocab-S (67) _ _
VS-def (69) _ _
VS-use (71) _ _
(73) _ _ _
(76) _ _ _
(79) 0 1

Sch (1) _
TCH (2) _ _
Ln (4) _ _
Mch (6) _ _
FBlnk (8) _ _
ShAns (10) _ _
Calc (12) _ _
Transc-W (14) _ _
Transc-O (16) _ _
Transl (18) _ _
Notes-O (20) _ _
Notes-W (22) _ _

Notes-S (24) _ _
Notesit (26) _
Nnotes (27) _ _
Record (29) _ _
Summary (31) _ _
GNarr (33) _ _
Analysis (35) _ _
Theory (37) _ _
Info-O (39) _ _
Jrnl (41) _ _
PLett (43) _ _
Notes-T (45) _ _
Person-O (47) _ _
Satire (49) _ _
Story (51) _ _
Poem (53) _ _
Play (55) _ _
Art-O (57) _ _
Persuade (59) _ _
Write-O (61) _ _
HW (63) _ _
NEpisodes (65) _
Wsamples (66) _ _
(68) _ _ _
(71) _ _ _ _
(75) _ _ _ _
(79) 0 2

Appendix 4

Questionnaire and Interview Schedules:

1. Questionnaire
2. Student Interview Schedule
3. Teacher Interview Schedule

School Code _____ [1-3]

National Survey of Secondary School Writing

Part I. The Class

As you complete this questionnaire, please base your answers on the work of the class indicated in the covering letter.

What is the specific title for this course? _____ [4-5]

Class size (number on register): ___ [6-7]

Is this class: (circle one)
1 Required for the students taking it
2 An option in a required subject area
3 An elective
[8]

How would you best describe the ability in this class? (circle one)
1 Mixed
2 Above average
3 Average
4 Below average
5 Remedial/special education
6 Other (please specify): _____
[9]

What is the best description of the grade level of this class? (circle one)
1 grade 9
2 at least half grade 9, with a mixture of other students
3 grade 11
4 at least half grade 11, with a mixture of other students
5 Other (please specify): _____
[10]

Part II. Writing and Related Activities

To what extent do you use the following activities with this class for *tests*, *classwork*, or *homework*. (If any were used during your most recent session with this class, please check the corresponding blanks in the columns at the right.)

	Circle One			Last class meeting? (Check all that apply)		
	Not used with this class	Used occasionally	Used frequently	homework	in class	
Multiple-choice or fill-in-the-blank exercises	1	2	3	—	—	[11-13]
Note-taking	1	2	3	—	—	[14-16]
Copying, dictation, or translation	1	2	3	—	—	[17-19]
Numerical calculations	1	2	3	—	—	[20-22]
Short-answer responses, requiring at most a few sentences per question	1	2	3	—	—	[23-25]
Logical or mathematical proofs	1	2	3	—	—	[26-28]
Writing of at least paragraph length in English or a foreign language (excluding translations)	1	2	3	—	—	[29-31]

Part III. Reasons for Writing

Below are two lists of reasons why teachers ask students to write (in the broad sense of the activities listed in Part II, above). Within each list, please indicate the *two most important* and the *two least important* reasons for asking this particular class to write.

Reasons for asking students to write (A):	Most Important (Check two)	Least Important (Check two)	
To help students remember important information	—	—	[32-33]
To correlate personal experience with the topic being studied	—	—	[34-35]
To test whether students have learned relevant content	—	—	[36-37]
To share imaginative experiences (e.g., through stories and poems)	—	—	[38-39]
To summarize material covered in class	—	—	[40-41]
To allow students to express their feelings	—	—	[42-43]

Reasons for asking students to write (B):	Most Important (Check two)	Least Important (Check two)	
To explore material not covered in class	—	—	[44-45]
To provide practice in spelling, punctuation, and other aspects of writing mechanics	—	—	[46-47]
To force students to think for themselves	—	—	[48-49]
To clarify what has been learned by applying the concepts to new situations	—	—	[50-51]
To teach students the proper form for a report, essay, or other specific type of writing	—	—	[52-53]
To test students' ability to express themselves clearly	—	—	[54-55]

Part IV. Longer Writing Assignments

Do you expect to give a final exam in this course? 0 no 1 yes [56]

If so, approximately what percent of the exam grade will be based on responses of at least paragraph length? ___ percent [57-59]

The questions which follow are concerned with writing of paragraph length or longer in English or a foreign language (excluding translations). *If you require no such writing for this class*, either for regular lessons or as part of an exam, check the blank at the right and *skip to Part VI, "Background Information."* —

To what extent do you use the following kinds of writing activities with this class for *tests, classwork,* or *homework*? (Consider only writing of at least paragraph length.)	Circle One: Not Used	Used Occasionally	Used Frequently	
Reporting of *particular* events or series of events (This is what happened in the experiment. . . . These are the events in Luther's life. . . .)	1	2	3	[60]
Generalized summary of recurrent events or of steps in a procedure (This is what happens when water is boiled. . . . This is how gingersnaps are made. . . .)	1	2	3	[61]
Analysis: Generalization and classification related to a situation, problem, or theme (These are the characteristics of mammals. . . . The main occupations in Florida are. . . . Britain's gains from the War of the Spanish Succession were. . . .)	1	2	3	[62]
Theorizing in a systematic way, including hypotheses and deductions from them	1	2	3	[63]
Personal uses of writing (letters or notes "to keep in touch," journals, diaries)	1	2	3	[64]
Imaginative uses of writing (stories, poems, plays)	1	2	3	[65]
Other uses of writing (please specify): _____	1	2	3	[66]

The questions which follow are concerned with writing completed for homework, for classwork, or for tests of progress, not with writing as part of a final exam. If students in this class write only for a final exam, check the blank at the right and skip to Part VI, "Background Information." — [67]

Part V. Teaching Techniques

To what extent do you use the following techniques with writing assignments for this class?	Circle One: Never	Sometimes	Regularly	
Use an assignment sheet to explain the task	0	1	2	[68]
Use model responses for students to examine	0	1	2	[69]
Have students begin writing in class, so they can ask you questions about what is expected	0	1	2	[70]
Have students write in class, so you can give them individual help with their writing	0	1	2	[71]
Break assignments into steps that can be completed one at a time	0	1	2	[72]
Brainstorm with the class to develop ideas for their writing	0	1	2	[73]
Require more than one draft, so that you can make suggestions for improvement	0	1	2	[74]
Arrange individual conferences with students to discuss their written work	0	1	2	[75]
Provide class time for students to read each others' papers	0	1	2	[76]
Duplicate papers for everyone in the class	0	1	2	[77]
Publish papers in school or class publications	0	1	2	[78]

5 1

When students write for this class, who reads the writing?

	Circle One: Never	Sometimes	Regularly	
Only the student (e.g., personal notes, journals)	0	1	2	[5]
The teacher, to react to the work *without assigning a grade*	0	1	2	[6]
The teacher, to grade the work *without other comment*	0	1	2	[7]
The teacher, to react to the work and to assign a grade	0	1	2	[8]
Other students in the class	0	1	2	[9]
Others (please specify): _____	0	1	2	[10]

Which techniques for responding to writing are most important and which least important, *given the needs of this particular class*? (If a technique is used routinely, please indicate this in the column at the right.)

Response to written work	Importance for this class: Most Important (Check three)	Least Important (Check three)	Used routinely? (Check all that apply)	
Indicate mechanical errors (spelling, grammar)	—	—	—	[11-13]
Respond with your own views or experiences	—	—	—	[14-16]
Assign a grade	—	—	—	[17-19]
Point out errors of fact when they occur	—	—	—	[20-22]
Comment on lapses in logic or organization	—	—	—	[23-25]
Suggest ways to improve the style of writing	—	—	—	[26-28]
Pose counterexamples or other lines of argument to be considered	—	—	—	[29-31]
Assess the accuracy of the conclusions	—	—	—	[32-34]
Suggest related topics for the student to explore	—	—	—	[35-37]

How typical are the following papers of work you assign?

	Circle One: Never	Occasional	Typical	
Up to 250 words (one page)	0	1	2	[38]
251 to 500 words (one to two pages)	0	1	2	[39]
501 to 1000 words (two to four pages)	0	1	2	[40]
over 1000 words (more than four pages)	0	1	2	[41]

How much time does a student have to work on a typical writing assignment? ___ days [42-43]

Do students in this class complete any long-term writing assignments or reports, extending over a month or more? 0 no, 1 yes [44]

If so, are these optional or required of all students in the class? 1 Optional, 2 Required [45]

Part VI. Background Information

Years of teaching experience (include this year) ___ years [46-47]

Age (circle one): 1 under 30, 2 30-39, 3 40-49, 4 50-59, 5 60 or above [48]

Subjects you teach: _____ — [49]

_____ — — [50-51]

What is your major subject area? _____

Do you have supervisory responsibilities over other teachers (e.g., as department head)? 0 no, 1 yes [52]

Do you use one or more textbooks with this class? 0 no, 1 yes [53]

If so, please list titles and publishers:

_____

_____

_____

In your opinion, who should be responsible for teaching students to write? (circle one)

1 The English teacher
2 The subject-area teacher
3 Both the English teacher and the subject-area teacher [54]

Do you feel adequately prepared (through coursework or through practical experience) to teach students to write in your subject area?

0 no
1 yes [55]

If so what was the primary source of this preparation?

_____

_____

_____

Please complete the following sentences in any way you feel is appropriate.

The quality of student writing. . . . __ __ [56-57]

When students are asked to write in my subject area. . . . __ __ [58-59]

In teaching students to write in my subject area, it would be most helpful if I knew. . . . __ __ [60-61]

__ __ [62-63]

Today's date: _____ __ [64]

Part VII. Writing Samples

If this class has completed any assignments requiring writing of at least paragraph length, please include photocopies of two papers from the most recent such assignment. ([illegible] to cover extra postage and the cost of photocopying are included with the covering letter.)

Select one paper from the top quarter and one from the bottom quarter of those received. Students' names and other identifying information will be removed from all samples.

If you would prefer that we not quote from these papers in reporting results from this survey, please check here: __

Please briefly describe the assignment and any other factors that may be relevant as we look at the samples. (Were they written in a test situation? Are they first or polished drafts?)

_____

_____

_____

If writing samples are not available, please complete and return this questionnaire without them, using the enclosed reply envelope.

__ __ __ __ [65-68]
__ __ __ __ [69-72]
__ __ __ __ [73-76]
__ __ 5 2 [77-80]

Please return to: Writing Study, 1111 Kenyon Road, Urbana, IL 61801

Student Interview Schedule

Name:_____ M F Date:_____

Age:____ Subjects: Eng FL Math Sci SS BusED PE Other_____

1. What kinds of writing do you do for your present courses?

Eng_____ Math_____ notes
FL_____ Science_____ short answers
SS_____ BusEd_____ essays
Other_____ _____ term papers
essay tests

2. When you write for_____(see page 2): (if more than one major type of writing per subject, such as story, essay, or research report, pick two)

3. You said you take notes for_____. How do you use the notes?

What about for_____? (continue with all classes where notes are taken)

4. Do you ever do any writing that's not assigned? What sorts? (if necessary, prompt letters, diaries, stories, poems) Follow with questions paralleling school writing if writing is formal, such as short stories or poems (see p. 2)

5. What is the best piece of writing you have ever done, for school or for yourself? What made it special?

6. What kinds of writing do you work hardest on? Why? When you do longer writing?

7. Do you think your English classes have helped you learn to write? How? (or why not?)

8. What has been the most helpful thing anyone has ever done for your writing?

9. What would you like most to have help with now?

10. Tell me about the piece of writing you brought with you (if such writing is obviously present). Is there something about it that makes it important to you, that made you choose it?

a. What kind of instructions does the teacher usually give?

Has the teacher taught you how to write like this before?

Do you all write on the same topic, choose from a list, have free choice?

What kind of writing do you do with the topic?

b. What sort of planning/research do you do before you start writing?

c. Does your teacher do anything to see how the writing is going or to help you while you are writing?

d. Do you ever do more than one draft? How regularly?

What sort of changes do you make?

e. How much time do you usually have to complete the assignment? (Classtime? At home?)

f. Does the teacher grade your work? Besides a grade, what sorts of corrections or comments does the teacher usually make?

g. What does it take to get a good grade?

h. Do you usually share your work with anyone besides the teacher? When you finish, is there anyone you like to show it to?

i. What do you do with the writing, when it is returned?

j. Do you like doing this kind of writing? Why (not)?

k. When you write for this subject, do you feel like you are telling your teacher something new, or showing you have learned the lesson?

Course and Type of Writing

						Own Writing
a. Instructions						Motivation?
b. Planning						
c. Help						
d. Drafts						
Changes						
e. Time						
f. Grade						
Comments						
Corrections						
g. Good work						
h. Share?						
i. Saved?						
j. Like it?						
k. Something new						

Teacher Interview Schedule

1. What kinds of writing do students do in your classes?

2. How often do you make assignments that require students to write at least a paragraph?

3. Why do you assign writing?

4. What do you think of the quality of your students' writing?

5. What are their greatest weaknessess and strengths?

6. Who are the two best writers in your class? Worst?

7. What was the most successful writing assignment you have ever given?

8. How do you prepare students for a written assignment?

9. Do you give them help about form? Content?

10. Do you ever have students revise their work? Why? Why not?

11. Do you allow students time to write in class?

12. How do you motivate them to write?

13. What do you look for when you grade the work? Mechanics? Organization? Content only?

14. What do you do with student work once it has been graded?

15. Do you ever read the work to the class to illustrate good or poor work?

16. Have you ever tried peer evaluation?

17. How can content area teachers help improve the quality of student writing?

18. Who do you think is responsible for teaching students to write?

19. Do you feel competent to teach writing in your own area?

20. Does your area require any kind of specialized writing?

21. In teaching writing in your area, what information would be most helpful to you?

22. How do you feel about writing?

Appendix 5

Coding for Writing Samples:

1. Function Categories
2. Sense of Audience Categories

Function Categories

1. Scripts should be placed in a definite category. When scripts have features of more than one category, they should be allocated on the basis of the dominant characteristics. Within the scale of abstraction underlying informational writing, the "dominant" category should be considered to be the highest level of abstraction clearly obtained by the writing; lower levels of abstraction should be considered to support higher levels. Supporting or secondary functions are coded in the "function-2" column.

2. Make no marks on the scripts themselves. Record your comments in the appropriate columns on the score sheet. Use the "comments" section to note any scripts that raise unusual problems or that are unusually good examples.

3. Decide on one of the three major categories before considering subdivisions. In difficult cases a return to the major categories may be helpful.

4. Classify copied work on the basis of its function, disregarding the fact that is copied.

Function Categories

There are in our scheme three main categories--
10. Informational 20. Personal 30. Artistic

10. Informational

This is language to convey information, arguments or opinions: to inform people (telling them what they need or want to know or what we think they ought to know), to advise or persuade or instruct people. Thus it is used to record facts, exchange opinions, explain and explore ideas, construct theories; to transact business, conduct campaigns, change public opinion.

We shall need to subdivide this category in various ways, but before going into this we shall describe the other two main categories.

20. Personal

Personal writing in this system is writing in which the language remains very close to the self, and in which there is a reliance on common background and experience in interpreting what is written (i.e., a shared general context of the past). It assumes that writer and reader will interpret the immediate situation in very similar ways, and is relatively unstructured and free flowing. It includes:
(i) The kind of writing that might be called "thinking aloud on paper." Intended for the writer's own use, it might be interpreted by a reader who had shared much of the earlier thinking but it could not be understood by one who was not "in the context."

(ii) The kind of diary entry that attempts to record and explore the writer's feelings, mood, opinions, preoccupations of the moment.

(iii) Personal letters written to friends or relations for the purpose of maintaining contact with them (as a substitute for being with them). Where the writers deal with their own affairs and preoccupations, the letter may read very like the diary entry (and a close relationship with the readers is claimed or assumed by regarding them as a "second self"). But writers may at other times more actively invoke a close relationship with their readers by (a) importing references to shared experiences in highly implicit terms and (b) implying strongly held shared opinions and values in the way they refer to people and events in general.

(iv) Writing addressed to a limited public audience assumed to share much of the writer's context, values, opinions, and interests.

Personal writing is related to artistic and informational writing in the following way:

(i) Personal language is relaxed: half an hour's chat with a friend is likely to leave us less fatigued than half an hour spent briefing the same friend for some undertaking, or urging a course of action. Personal writing is relaxed in a similar way.

(ii) This amounts to saying that in personal writing the demands made on the writer (demands from outside, by the reader, by the nature of the task) are at a minimum.

(iii) What we suggest now is that the demands which begin to affect personal writing (so tending to change it into something else) are of two kinds: (a) the demands of a task, the need to do something by means of language, will, if taken far enough, change the personal into the informational;

(b) the demands of the construct, the urge to make something in language and the intricacies of doing so, will, if taken far enough, change the personal into the artistic.

30. Artistic

Artistic writing uses language as an art medium.

A piece of artistic writing is a verbal construct, an 'object' made out of language. The words themselves and all they refer to are selected to make an arrangement, a formal pattern.

(i) In all artistic writings the phonic substance of language itself is arranged (though the effect of the arrangement is generally more prominent, more sharply felt in a lyric than it is in a novel).

(ii) The writer's feelings expressed naturally or casually in a piece of personal writing, are in artistic writing ordered, arranged to create a pattern.

(iii) Where there is a narrative, the events referred to make up or are part of a pattern;

(iv) A pattern of ideas, a formal 'movement of thought', adds a characteristically artistic dimension to the writer's thinking.

These are not independent systems of arrangement, of course, but elements in a single significant design. Consonance and dissonance between formal elements bind the writing into a complete whole, a single construct (whether it be a sonnet or a novel, an epic or a curtain-raiser).

The general category for artistic writing is further subdivided into two of its major genres: stories (31) and poems (32). All other genres are categorized under the general category (30).

Sub-divisions of the Informational

11. Recording of on-going experience

Writers may attempt to record what is immediately present in their environment, the events, the appearance of things. They are saying what their world is like at that moment. It is the written form of the kind of language we

encounter in the spoken sports commentary. We would expect this kind of informative writing to be rare. It has its counterpart in personal writing (as for example it might occur in a personal letter), and in poetic writing, but this category is applied only to informative writing.

12. Reporting of particular events or series of events

In reporting, writers take up a retrospective stance. They no longer appear as observers who see what is happening as they write: they draw upon their own past observations in a particular time and place. The stance is that of someone reporting past observations and not recording what is being observed. Narratives usually reflect this stance by using the past tense; descriptive passages may not do so since, obviously, the particulars of the scene observed in the past may well exist unchanged in the present.

It is important to note that report deals with particular observable events and scenes and does not cover generalization drawn from scattered observations or from observations over a period of time.

13. Generalized summary of recurrent events or of steps in a procedure

It is possible for the one-time/one-place report of the past to be expressed in more general terms and yet not to constitute true generalization. By taking a few similar occasions or places the writer, usually by a mere shift of tense ('I asked the old man who sells newspapers' to 'I ask' etc.), suggests that events or appearances have recurred. This is the first step away from report, detecting a pattern of repetition in particular events. In order to do this, writers may well give to precise elements a more general quality than they actually have ("My mother always comes upstairs and trips over the carpet, swears, and gives me a cup of tea half of which is, of course, swilling around in the saucer"). Moreover, the writer, by choice or necessity, make no use of abstraction which could lift the writing out of the immediateness of the detail. It should be stressed that these are not value judgments since a generalized narrative may for various valid reasons be the chosen form of the writer who wishes to strike a specific balance between the general and the particular. On the other hand it may be a category which represents the first efforts of an immature writer to break away from the particular. To put it most generally, we may say that the writer arranges classes of events on a chronological principle or classes of "appearances" on a spatial principle.

We include in this category a great deal of everyday informational discourse: discourse in which the speaker generalizes from a number of events or procedures or situations in order to tell us in a concrete way how things occur, what things are like, or how things are done, e.g. "Hydrogen sulphide is usually obtained from iron sulphide and dilute hydrochloric acid, using a Kipps apparatus." Note that this is a generalization from observable repeatable processes involving concrete phenomena. However, a writer concerned to tell us how things occur etc. may draw explicitly upon principles (rationally established relationships) and in this case his writing would move to a category higher up the scale of abstraction. (E.g. "Hydrogen and

oxygen may be obtained by electrolysis of water to which a few drops of sulphuric acid have been added to increase the rate of ionization.") Similarly a writer who is making generalizations from observable concrete phenomena may take the generalizations to a point of abstraction beyond category 13.

Instructions for carrying out practical processes (e.g. recipes) are likely in spite of their form (see category 16) to appear in 13.

14. Analysis

Writing in this category involves classification and categorization, with logical or hierarchical relationships among generalizations implicit or explicit. The least developed forms of analysis may involve strings of generalizations with at best a loose connection one to another rather than presenting a coherently organized point of view; the writing has moved beyond the narrative/descriptive organization of 13 without yet taking over the organizing principles of analysis.

In more developed forms of analytic writing, generalizations and classifications are related hierarchically or logically. Much scientific writing is of this form. It concerns itself not so much with what happened to a particular object treated in a particular way, but with what happens to substances of such and such a kind treated in such and such a way. Analysis can also be based on personal experience, with a writer, for example, presenting ideas about the way people behave without reference to systematized scholarship.

Analytic writing may or may not be supported by reference to particulars. If it is, these particulars are seen as playing a subordinate, supporting role.

15. Theorizing

This is writing which concerns itself with theory and therefore with making propositions about propositions, or propositions about the relationships between propositions. It will produce hypotheses and deductions from them. Generalizations are transformed into other generalizations in such a way that new assertions become possible. A great deal of impersonal logical argument from principles or theory will be placed in this category.

In its less developed form, theorizing takes the form of speculation, in which writers begin to consider alternative possibilities and perhaps to weigh them. Such speculation may be quite open-ended in the sense that it can lead anywhere, without the highly ordered structure of more mature forms. Speculations may involve proposing a potentially valid theoretical statement without pushing it to a firm conclusion or relating it to a closed logical system.

We may speculate in all sorts of ways. (I wonder if it will rain? It may be because they are heavier . . .) To qualify as 15, the speculation must be of a theoretical kind, one that uses a formulation as a basis for prediction and extrapolation.

16. Regulative

17. Persuasive

Categories 10 through 15 form a general continuum of levels of abstraction. Categories 16 and 17 contain writing which falls outside of this continuum, writing concerned with giving orders, instructions, advice, or persuasion.

The classification includes only writing where the attempt to instruct or persuade is explicit, where there is a deliberate and recognizable assault on other people's behavior or attitudes or opinions, or where the assault, although deliberate, is disguised so that the reader may be all the more effectively persuaded without knowing it.

The reader is not necessarily persuaded; orders are not always carried out, people may fail to respond to the most logical arguments or the most subtle blandishments. They may even do the opposite to what was expected of them. But the essentials here, the relevant conventions and presuppositions, are found

(i) in the use of the acknowledged means of commanding, urging, or persuading and

(ii) in the acknowledgment by the reader of the means being used.

16. Regulative

This is writing which gives instructions, tells what is to be done or what should be done. The attempt to influence is direct, and it is therefore more likely to be concerned with actions and behavior than attitudes and beliefs. It is concerned with making demands, issuing instructions where there is an obligation to obey them, and making recommendations which carry the weight of authority or the force of the speaker's wishes. (It is not concerned with giving information or putting forward reasons.)

Regulative writing is fairly rare in school tasks, because the rationale of most school subjects demands explanation and justification. When a pupil sets out to write about how to do something (how to mend a puncture, how to prepare oxygen, how to make a curry; i.e., technological discourse) the function is not regulative because the writer is in no way inciting the reader to do whatever it is, but is merely explaining how to do it. Thus, while rules are regulative because anyone who comes within their jurisdiction must obey them or endure the consequences of not doing so, recipes are informative, because the writer is in no way concerned with whether the reader makes use of the information.

17. Persuasive

In persuasive writing the reader is seen as someone whose behavior, attitudes or opinions can be changed or influenced by reason, argument, or strategy, rather than someone for whom a course of action can be

prescribed and elaborated. As soon as the regulative is backed by argument, acknowledging potential resistance, it moves toward the persuasive. It is in the nature of the persuasive that it enters controversy, and may well attempt to foresee and counter all possible objections. The writer is, in effect, saying "This is a point of view that you ought to hold, and these are my reasons for saying so."

Further notes on Regulative and Persuasive Writing

(i) Disguises

Such writing may sometimes depend on concealment of its function in order to fulfill that function more effectively. This may occur in advertising and in some kinds of propaganda, and it can arise in children's writing. There is then a difficulty in relation to our definition of function. If a reader is in fact persuaded, but does not consciously realize what is happening, we cannot call this "the mutual acknowledgement of communicating parties." Such readers are persuaded because they lack the subtlety and sophistication of the writer, but other readers, who do share that subtlety and sophistication, will recognize the persuasive function, and the requirements of our definition are fulfilled as far as the writer and his or her equals are concerned. The persuasive function, however, is concealed from the unsophisticated reader--hence, "disguised."

(ii) Distinguishing personal writing

(a) It is the function of personal writing both to verbalize the personality (feelings, preoccupations etc.) of the writer and to set up a close personal bond with the reader.

(b) The sort of situation and relationship in which this takes place would allow also for a different function - that in which the writer deliberately seeks to influence the attitudes, behavior etc. of the reader and to do so in the role of intimate associate.

(c) The language employed will in both cases bear the stamp of the close personal relationship.

(d) However the one (a) must be classified as personal and the other (b) as persuasive.

(iii) Distinguishing informative and persuasive

A writer in the process of informing a reader on a matter about which he or she has strong feelings may move toward, or into, the persuasive function if the expression of strong feelings is employed, within the conventions, to arouse its counterpart in the readers.

(iv) Persuasive writing, propaganda, "committed" literature, and satire

It is easy to find examples of literature which have, as part of their function, the influencing of the judgment, beliefs, and attitudes of the reader. Frequently this literature has a strong appeal for young

people, and pupils often want to 'commit' themselves in their own writing in the artistic or personal/artistic area. It is therefore necessary to distinguish persuasive informative writing from artistic writing which also has a persuasive function. In the first, the persuasive function is the transaction itself, but in the second the relationship of the two functions is more complicated. A play, poem, or story which has a persuasive function as well as an artistic one can have it only if the writer and reader both accept the artistic construct first. If this is not possible (i.e. if the artistic function is made subservient to the persuasive one) we should have no hesitation in putting it into persuasive, even though the writer may have set out to write a poem or a story. It is not altogether a matter of deciding on which is the dominant function, as is the case in making judgments of other writing which has some of the characteristics of two functions. Satire functions as satire only because the artistic construct is established beyond all doubt; the same is true of a novel like Germinal or a poem like Babi Yar. Pupils often succeed in achieving this degree of commitment in their writing and expressing it within an artistic construct; this writing is not necessarily less persuasive becuase its artistic function is clearly established, but we would classify it as artistic.

Notes or applying the categories to school writing

1. Historical writing

It might seem that the presentation of a chronological sequence of historical events must inevitably be classified as report, but report as we define it should be limited to events as they might have been observed by an onlooker. Such a statement as "Charles I stepped on the scaffold" is of a different order from "Britain went to war with Germany" since the latter requires that the writer generalize from many possible statements of the order of the former. (In much the same way as does the writer of "metals expand when heated.") In other words a statement of the latter kind is by its nature classificatory and is coded as analysis.

A sentence such as "Britain went to war with Germany" might well be in a context of such sentences as "Hitler refused to see the British Envoy" and "A British ship was torpedoed in the North Atlantic." In this case, of course, the writing would be classified as report (12). It might equally well be in a context such as the following: "Germany attempted a blockade of British seaports and when this proved inconclusive, made preparations for an invasion by sea and air." In this case the writing would be classified as analysis (14).

Some informative writing attempts to handle experienced events by 'reproducing' them. Since all language generalizes and some kind of selection takes place this attempt cannot be realized in full. It is nevertheless true that we can distinguish, usually without difficulty, between the writer who is attempting to come close to events by means of report (12) and the writer who is moving away from them to analysis (14).

2. Writing about literature (and other art forms)

Writing about literature (or about other works of art) commonly takes two forms: (i) interpretation of a particular text (or picture etc.) and (ii) elaborating or applying a critical theory.

(i) Interpretation of a particular text may be

(a) record (though this will be rare) e.g. (of a picture) "The scene is a picture of looking through an old broken window. The window looks as if it used to be part of a church. Through the window you can see a mountain in the distance. At the bottom of the mountain there is a grassy slope."

(b) report e.g. "In the town of Hamlyn there had been rats and the Pied Piper had got rid of them for the people. After this the people and children and everybody were happy and the children played about. But the only thing was that the town council wouldn't pay the Piper for getting rid of the rats."

(c) analysis - where particular references may be made in support of classificatory generalization e.g. "The images and diction of the poem are solid and give a feeling almost of earthiness. He talks of the brain growing, compares himself to a tree, a symbol of immobility and steadiness, yet still having life."

(d) theorizing, e.g. "The art of the novel, wrote Thackery, is to represent nature. In Vanity Fair therefore his purpose is to create a realistic portrayal of the manner of society around him. His method of achieving this is not to narrate a story dealing with the life on one individual character, observing society through his eyes and recording his responses, but to take a broader view of social activities describing a large number of figures in a succession of varying situations and commenting on the action himself as he goes along."

(ii) Elaborating or applying a critical theory

This will normally be theorizing (15).

3. Stories

Fictional narratives may sometimes take on informational or personal functions, rather than artistic ones. A story about eskimos may have as its main function the conveying of information about eskimos; an anecdote may mainly be inviting interest in the author. The following distinctions may help in categorizing scripts:

To qualify as informational - the piece ought to seem concerned to satisfy the reader (or teacher) seeking information, while at the same time it maintains the framework of a fictional narrative.

To qualify as personal - it ought above all to seem to satisfy the writer's desire to verbalize thoughts, fellings, etc. to someone willing to be interested in them and in him or her.

To qualify as artistic - it ought to seem of value as a verbal construct made for the pleasure of making it and sharing it, and not as a means to some other end.

Summary of Function Categories

10. Informational
    11. Recording
    12. Reporting
    13. Generalized summary of recurrent events or steps in a procedure
    14. Analysis
    15. Theorizing
20. Personal
30. Artistic
    31. Stories
    32. Poems
16. Regulative
17. Persuasive

Sense of Audience Categories

1. Scripts should be placed in a definite category. When scripts have features of more than one category, they should be allocated on the basis of the dominant characteristics. Use the secondary characteristics column to record the less dominant audience in scripts which seem to shift audience or to blend features of two categories.

2. Make no marks on the scripts themselves. Record your scores in the appropriate columns on the score sheet; use the "comments" section to note any scripts that raised unusual problems or that are unusually good examples.

3. Scripts should be scored initially for the audience implicit in the writing, using the categories which follow. After making this classification, score them a second time for any "imagined" audience, implied by the assignment or the approach taken. This is the audience to whom it is "as if" the writing were directed in assignments of the "write a letter to a friend" or "prepare a report for Nature magazine" variety. Use the same categories; code as 0 if there is no imagined audience specified or implied.

Sense of Audience: Description of Categories

A very broad division might be made as follows:

SELF : TEACHER : A WIDER AUDIENCE (KNOWN OR UNKNOWN)

and since the work we are examining is teacher-assigned, we should expect most of the pieces to fall in the second category.

Before attempting finer distinctions, we need to state as exactly as we can what it is we are classifying for.

> In any piece of writing, the WRITER expresses A RELATIONSHIP WITH THE READER in respect to the TOPIC.

We want to classify writings in accordance with the reader relationship expressed. Thus, though we describe the relationship in terms of both writer and reader, it is the second term (referring to the reader) that is systematically varied. The first term names the general or usual complementary role to that particular class of reader.

We suggest, therefore:

SELF	1. Child (or adolescent) to self.
TEACHER	2. Pupil to teacher, general 3. Pupil to examiner.
WIDER AUDIENCE (KNOWN OR UNKNOWN)	4. Expert to known laymen. Child (or adolescent) to peer group. which may include the teacher). Writers to their readers

1. Self. Writing from own point of view without considering the intelligibility to others of that point of view; a written form of "speech for oneself." The writer must be the first-stage audience, though some other reader may also be in mind. This includes but is not limited to situations where:

(a) what is recorded or explored is considered by the writer to be of no concern to anyone else,

(b) what is recorded or explored is regarded as a private concern, or

(c) the exploration is so difficult or tentative that the writer could not afford to have anybody else in mind.

Assigned tasks may sometimes move into this category particularly in the circumstances of (c) above. Notes are likely to move into this category where they may appear in three forms: (i) a diary-form entry where writers comment on something which has interested them, (ii) preparatory notes for an assigned task (where the teacher conditions the task but is not in mind as an audience to this preparatory version) or (iii) study notes that will be used only by the student.

2. Pupil to teacher. Most assigned writing is primarily addressed to the teacher, but among many things teachers do, their teaching function can usually be distinguished from their testing function. It is this distinction that we want to apply in defining "pupil to teacher" as a different audience category from "pupil to examiner."

The basic difference is between an ongoing process (an interaction between pupil and teacher, a continuing dialogue), on the one hand, and a set piece or demonstration on the other. In the teaching situation, pupils look, in their writing, to the responses of the teacher and beyond that to their own activities to follow. They write for a response, and a genuine question may be as appropriate as a statement; a suggestion that invites development may be as highly valued as a conclusion.

The test piece, on the other hand, is a culminating point rather than a stage in a process of interaction. (If questions are appropriate it is because they demonstrate the candidate's ability to frame the right questions, and they cannot seek an answer.)

A test may set out to measure what pupils can do as well as what they know, and here the teacher/examiner distinction may be more difficult to make. Thus:

(a) Suppose a teacher asks a class to write a ballad, not as a test but as a piece of teaching. Poor performers may nevertheless find this an impossible task and their writing will show this: They cannot regard it as an "invitation to be accepted" but only as a "demand to be met." It seems logical to regard this not as teacher directed (the teaching miscarried in this case) but as in the category "pupil to examiner."

(b) When a piece of writing seems to offer back what the pupil has learned--a mirror to instruction--this would suggest "pupil to examiner." Where the writer seems to be actively operating within a task area this would suggest either (i) normally, pupil to teacher--especially where the writers try to interest their readers or to write from their own interests; or (ii) occasionally, pupil to examiner, in the sense "See how well I can operate."

Where the pupils seem to be copying straight from a text book, or reproducing notes which the teacher has given them, the writing would suggest pupil to examiner, because the pupils have taken the "teacher as examiner" as the audience for the task as a whole (though this may not further affect what is written).

Exercises or precis are likely to be of the form "see how well I can operate."

(c) The best exams may set out to test ability to use language in optimum conditions, i.e. perhaps in circumstances modelled on the teacher-pupil dialogue. In such cases an actual exam may call forth writing which we should rightly classify as "pupil to teacher."

4. Writers to their audience (known or unknown). There are a number of situations in which the student may transcend the immediate school situation and address an audience beyond that of the teacher or examiner. These include:

i. Expert to novice, where the writers are comfortable in their topic and have adjusted their presentation to make sense to non-experts. (In the pupil-to-teacher categories, however expert the writer may be, he or she will feel that the teacher is even more of an expert.) If a student attempts such a task but does not feel "expert" in the topic, the writing is likely to fall into the pupil-to-teacher or pupil-to-examiner categories.

ii. Student to peer group, in situations where the students are responsive to each other's efforts. The sense of peer group must dominate any implied teacher audience, however.

iii. Group member to group, where the writing is a link in a chain of group activity or material for the group to work upon. The audience is known, and the student may try to take into account views and attitudes of individuals in the group. Often, the teacher may be regarded as part of the group.

iv. Writers to their readers (unknown). Writing in this category is marked by a sense of the general value or validity of what is being said, by an attempt to supply a context wide enough to bring in readers whose sophistication, interests, and experience can only be estimated, and by a desire to achieve an effect or make an impression on readers in general.