

DOCUMENT RESUME

ED 240 609

CS 208 181

AUTHOR Perl, Sondra
TITLE Coding the Composing Process: A Guide for Teachers and Researchers.
SPONS AGENCY National Inst. of Education (ED), Washington, DC.
PUB DATE 84
CONTRACT NIE-P-79-0170
NOTE 103p.; Best copy available.
PUB TYPE Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC05 Plus Postage.
DESCRIPTORS Behavioral Science Research; Behavior Rating Scales; Classification; *Classroom Observation Techniques; *Data Analysis; Data Collection; Elementary Secondary Education; Guides; *Research Methodology; *Research Tools; *Writing Processes; *Writing Research

ABSTRACT

Designed for teachers and researchers interested in the study of the composing process, this guide introduces a method of analysis that can be applied to data from a range of different cases. Specifically, the guide offers a simple, direct coding scheme for describing the movements occurring during composing that involves four procedures: teaching writers how to compose aloud, taping the composing aloud sessions, coding the tapes onto the composing style sheets, and analyzing the composing style sheet. The guide describes the style sheet as a tool to (1) reduce a lengthy composing tape to a chart; (2) introduce a coding system that can be replicated; (3) sort specific, observable behaviors into defined categories that make it possible to discern regularities and patterns within and across cases; (4) provide a way of determining how parts of the process relate to the whole; and (5) present the sequences of movements that occur during composing as they unfold. The first chapter of the guide provides a background of the writing process and discusses the purpose of the coding scheme, while the second chapter examines various methods and techniques of observing the writing process. The coding scheme is explained in the third chapter and applied to the composing process of one writer in the fourth chapter, and the final chapter examines some of the questions that guide research efforts to study the writing process. (HOD)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *

X This document has been reproduced as
received from the person or organization
originating it
Minor changes have been made to improve
reproduction quality

• Points of view or opinions stated in this docu-
ment do not necessarily represent official NIE
position or policy

**CODING THE COMPOSING PROCESS:
A GUIDE FOR TEACHERS
AND RESEARCHERS**

**Sondra Perl
Herbert H. Lehman College
City University of New York
Bronx, New York**

**NIE-P-79-0170
Originally submitted in 1981
Minor Revisions 1984**

IS

**National Institute of Education
Washington, D.C.**

ED240609

181808181

PREFACE

This guide is designed for teachers and researchers interested in studying the composing process. Until recently, composing was considered a mysterious activity. The particular behaviors people exhibited and the strategies they used while writing were not thought to be amenable to study. Now with new research methods, the process of composing is coming under careful scrutiny.

As increasing numbers of scholars turn their attention toward composing, case studies and research reports abound. It is my hope that this manual will be used to help systematize the efforts of scholars in the field by introducing a method of analysis that can be applied to data from a range of different cases. Then as we continue to conduct case studies of individual writers, we may be able to derive theories of composing from the regularities we have observed and documented in human behavior.

I hope as well that this guide will be used by teachers interested in bringing writing research into the classroom. Using the method described here, it will be possible for teachers to show students how to describe and analyze their own writing processes. In addition, students with writing problems may be able to discover what in their writing process has led them astray.

The goal of my work is to make the composing process a palpable part of any course or any research on writing. It may at first appear that analyzing the composing process is a bit like dissecting a corpse. Why spend time analyzing something whose life is already over? Yet like time-lapse photography or instant replay, much can be gained by reviewing what we do. By reviewing how we compose, we can, I believe, inform ourselves more deeply of the subtleties, the richness, and the fluid quality inherent in composing.

I want to thank the many friends and colleagues who have enabled my work to reach this point. In particular I want to thank six people whose support helped me produce this manual: the late Gilbert Voyat, who helped me understand the concept of underlying structure and aided me in the development of the composing style sheets; Gordon Pradl, who guided my writing and responded when I needed encouragement; Marcia Farr, who sponsored this project and displayed continuing faith and patience, knowing that I would complete it; Trika Smith-Burke, who also saw this project begin and cared enough to see that it culminated in publication; Steve Cahir, who shepherded the manuscript throughout the offices of the government; and Arthur Egendorf, my husband, whose excitement for this project kept mine alive and whose inquiring mind, as always, challenged mine.

Sondra Perl
January, 1984

TABLE OF CONTENTS

PREFACE	i
Chapter	
I. STUDYING THE WRITING PROCESS	1
The Purpose of the Coding Scheme	3
Background	5
How to Use This Manual	7
In Classrooms	10
In Writing Laboratories	10
In Research Studies	11
General Questions Answered by the Scheme	12
II. DEVELOPING NEW TECHNIQUES	15
Methods of Observing the Composing Process	16
Observation with No Interruption of the Process	17
Observation with Occasional Prods	18
Interviews with Writers based on Discussion of Drafts	19
Interviews with Writers based on Replays of Videotapes	20
Direct Monitoring of the Process by Asking Writers to Compose Aloud	21
III. LEARNING TO USE THE CODE	25
Composing Aloud	26
Taping	27
Coding the Composing Process	29
Determining functional units	30
Planning	34
Commenting	35
Rehearsing	37
Rehearsing leading to Writing	37
Speaking the words while writing them	38
Questioning	38
Assessing	39
Reading	39
Writing (Drafting)	41
Repeating	41
Pauses or periods of silence	41
Revising	41
Editing	43

Metacommenting	44
Researcher intervention	45
Constructing a timeline	45
Charting the behaviors	47
Additional annotations	50
Reliability	51
Analyzing the Composing Style Sheets	52
 IV. WATCHING ONE WRITER AT WORK: VERN	 55
Transcript of "My Most Anxious Moment as a Writer"	59
Analysis of Vern's Composing Process	70
Doing Simple Counts	70
Looking for Patterns	73
 V. BUILDING A THEORY OF THE COMPOSING PROCESS	 78
Is There a Basic Composing Process?	84
 REFERENCES	 93

Chapter I

STUDYING THE WRITING PROCESS

Any psychological process, whether the development of thought or voluntary behavior, is a process undergoing changes right before one's eyes. . . . Under certain conditions it becomes possible to trace this development.

L. S. Vygotsky, Mind in Society

Composing is a process. It occurs whenever we, as writers, create meaning, whenever we give birth to and shape our ideas. Observing this process can be a fascinating experience for it provides us with an opportunity to see the creative process at work. This process may always be more complex than any models we construct or any words we use to describe it. Undoubtedly, it will continue to defy our efforts to pin it down. Yet watching what happens, taking time to observe as our ideas or our thoughts come into existence, is itself a way of facilitating the process. We understand more fully how to write when we understand more fully how our own processes work, and when we begin to understand our own processes, we are in a better position to help others master theirs.

I have devised this manual as a means of enabling teachers and students to discover the workings of their individual composing processes. I do not assume that all people compose in the same way or that there is one correct

way to compose. Neither do I assume that composing is a series of random experiences which some of us are lucky enough to have and others are not. Rather, the view I have developed through my research and teaching can be summarized by the following four propositions:

1. All of us, teachers and students alike, have systematic composing processes;
2. These processes may appear on the surface to be radically different from one another;
3. Beneath what appear to be the idiosyncracies of our individual processes lies an even more fundamental process; and
4. Learning how to work with and develop that fundamental process will enable us to write with greater ease and satisfaction.

I arrived at these notions after coding the composing tapes of many writers. Initially my goal was to describe what writers did moment by moment as they were engaged in the act of writing. While conducting the research, I discovered that what at first looked like individual styles were actually shared patterns. The discovery of patterns led me to ask questions about the nature of the composing process in general and to return to the data I had collected for further analysis. Building from case to case, I began to see a common pattern in the composing processes of many different writers.

I will return to this perception and the notion of a fundamental composing process in Chapter V. For now, I invite you to work your way through this manual, learning

how to use the coding scheme and how to apply it in your own classroom or research setting. Having done so, you may find, as I did, that the coding process outlined here will enable you to make further discoveries about the composing process.

The Purpose of the Coding Scheme

This scheme has been devised to assist in answering the question, "How do writers compose?" It is a "process measure," a way of depicting what writers do as they write moment by moment. As such it is descriptive; it is a method for portraying composing behaviors as they emerge in sequence.

Usually if we ask people, "How do you write?" their answer is, "I don't know" or "I guess I plan a bit and then start." If we ask people to write and then immediately ask them to describe their composing process by posing the question, "How did you go about writing what you just wrote?" their answers become a little more specific. For instance, a writer might say, "Well, I thought about the topic, then I got a picture in my mind of something that happened to me that was related to the topic and then I began to write."

Unfortunately, there is a problem with this answer: it is not very informative. What does it mean when someone says, "I got a picture in my mind"? When did this picture occur? How long did it last? Did the writer return to this picture during writing or did the picture change as

the writing progressed? These and many other questions come to mind when we begin thinking about how the process of developing, shaping and creating meaning occurs.

There is as well a second problem with the usual retrospective and subjective answer to the question, "How did you go about writing what you just wrote?" What we say about how we do something and what we actually do may differ. Thus we may not even be able to trust our own descriptions of the process. And if we can't trust our own descriptions, how are we to learn anything about composing?

The scheme described in the following chapters has been devised to surmount these objections by allowing us to observe the composing process as it unfolds. It allows us to record exactly what is going on while it is occurring and then to return to the data for analysis. It provides writers who think they "don't know how to write" with an opportunity to see that they do have a process all their own. It offers writers who think they know a lot about their own process an opportunity to check their perceptions about themselves. Often the results are surprising.

This scheme is not designed to teach people how to compose but to grasp what they already do while composing. In using this approach, some people have discovered things they do during composing that inhibit the process. Others have seen the possibility of using this approach in studies comparing the writing processes of skilled writers with

those who are less skilled. While the coding scheme lends itself to these various uses, it is, in itself, a neutral, descriptive tool, not an evaluative one.

Background

I developed the coding scheme between 1975 and 1978 as part of my doctoral dissertation on the composing processes of unskilled college writers (Perl, 1978). Since that time I have taught it to college students, graduate students and English teachers and modified it to reflect their comments.

The scheme involves four procedures which will be explained in detail in Chapter III:

1. Teaching writers how to compose aloud;
2. Taping the composing aloud sessions;
3. Coding the tapes onto composing style sheets;
4. Analyzing the composing style sheets.

My overall goal has been to devise a tool that would describe the movements that occur during composing in a simple, direct manner. More specifically my interest has been to discover how the various components of the composing process are related. For example, I was not only interested in the fact that writers rehearse and revise but also in the ways that rehearsing and revising are intertwined throughout the entire process.

One of the challenging analytic problems I came upon was that to study the relation among various sub-processes,

I needed to see both the parts of the process and the whole process at the same time. Narratives that described "First the writer planned for 15 seconds, then the writer read the topic. . ." proved to be both lengthy and cumbersome. Thus to provide both the overview and the specificity together, I devised what I call the composing style sheet, a graphic portrayal of how someone wrote during an entire session, summarized on a page or two.

The composing style sheet offers teachers and researchers a way of viewing an entire composing sequence at a glance. It can be thought of as a kind of relief map: both particular detail and general outlines can be seen at once. Its advantages are as follows:

1. It is concise: it reduces a lengthy composing tape to a chart.
2. It is standardized: it introduces a coding system that can be replicated.
3. It is categorical: it sorts specific, observable behaviors into defined categories, which makes it possible to discern regularities and patterns within and across cases.
4. It is structural: it provides a way of determining how parts of the process relate to the whole.
5. It is diachronic: it presents the sequences of movements that occur during composing as they unfold in time.

The composing style sheets have been created as a means of viewing what people do as they compose. It is important to remember that much that goes on inside the mind of the writer is never spoken or recorded on tape

during a composing aloud session; as a result, this scheme can only capture part of the process. Teachers and researchers sensitive to this fact will find the charts a powerful tool for describing what is apparent during composing and for pointing towards those aspects of composing that are not so readily apparent.

As a further qualification, it is important to note that the categories for coding writing behaviors outlined in Chapter II were derived from tapes of unskilled college writers and revised in the light of tapes made by skilled college writers and skilled adult writers. There is no way to know how well these categories will fit for beginning writers, adolescents or other groups of writers. While it is likely that many of the categories or constituents will be relevant, I encourage other teachers and researchers to rework or add to them as needed.

How to Use This Manual

This manual can be used in classrooms, in writing labs and in research studies. How strictly you stick to the procedures outlined in the following chapters is a matter of preference and need. Teachers interested in exploring with their students the general concept of the composing process need not use every category or code. In fact, many students may benefit from hearing a composing tape without ever learning how to code it. Researchers, on the other

hand, will definitely need to use the functional categories defined in Chapter III and to try them out with their own research subjects to see if they are applicable.

The best advice for people interested in using the manual is to practice the composing aloud and coding techniques a few times before instructing others to use them. Over the past few years, I have found that the following steps work well:

1. Either stop what you are doing right now or take some time over the next few days and write something without using composing aloud procedures. Here it is best if you use whatever method or technique you would normally use. You may begin without a topic by jotting down whatever comes to your mind or you may prefer to write on one of the topics suggested below. If, in fact, you have writing to do for your job, you can do that, or you can compose something personal, perhaps a journal entry. Whatever the topic, spend some time working on a piece of writing over the next few days. It is best if you do this before you read Chapters III, IV and V.

If you are not sure what to write, you might consider writing a response to one of the following questions:

- A. What's important to me about writing?
- B. What do I remember about being taught to write?
- C. Why am I reading this composing guide?

After having written something, make some notes on what you observe about your own composing process; these notes can include how you felt about writing, what you noticed about your environment, what you noticed about your own process, whether you stopped to reread or edit while writing, how you began, etc.

Once you have finished, set your notes aside. They will provide you with baseline data to which you can return after completing the next steps.

2. Read through the manual.
3. Using a tape recorder, practice composing aloud.
4. Make a composing aloud tape on a topic of your own choice, possibly something similar to what you wrote in step #1.
5. Code the tape according to the method outlined in Chapter III.
6. Analyze your composing style sheet to determine whether the data confirm your opinion of yourself as a writer or whether they provide you with any new perceptions concerning the nature of your own composing process. Here it is useful to refer to the notes you made in step #1.
7. Note any difficulties you have with composing aloud or with coding your verbal statements.
8. Practice these procedures so that you will be able to use your own experience to answer questions about the process of composing aloud and the method used for constructing the composing style sheets.

It should be apparent that a few composing tapes and a few style sheets will not provide you with definitive descriptions of the composing process; exhaustive descriptions require the collection and analysis of a much larger data base, including writing done on a variety of topics over a greater time span, with and without composing aloud techniques. However, the value of practicing the procedures cannot be underestimated. Once you have experimented with the process yourself, you are in a much better position to help others work through it. Once you are comfortable with the method, you can use it in a number of classroom or research settings. Below I suggest some possible applications.

In Classrooms

1. To model the teacher's composing process for students.

Teachers can make a tape of their own composing process and play it for the class. Students can be asked to analyze the composing behaviors used by the teacher.

2. To demonstrate how particular students write.

Students can be asked to make tapes of their composing processes and to share them with the class or with a small group. Variations in composing techniques used by different students can be discussed.

3. To sharpen awareness of the composing process.

Students can be asked to listen to a particular taped sequence and to devise their own codes. Here it would be important to look at how students formulate descriptions of what is going on and how they distinguish one behavior from another.

Students can also be asked to study the development of the composing process over the course of a semester or a year. They can be asked to do a case study of themselves or of someone else and to document whatever changes occur in the process over time. This type of assignment works well in university-level (undergraduate and graduate) English or education courses to provide prospective or current teachers with a deeper understanding of composing.

In Writing Laboratories

1. To aid in diagnosis and development.

When students come to a writing lab, they can be asked to compose aloud. Their initial tapes can serve as an important source of information.

This is particularly effective if tutors or lab instructors listen to the tape and read the student's written product at the same time. As students work in the lab, early tapes can be

compared with later ones as a means of determining whether any part of the student's composing process has changed.

2. To make writing labs a place where the process of writing is given as much attention as the product.

Once students coming to the lab for assistance make a tape, tutors and students can listen to the tape together, discussing which of the students' strategies seem to be helpful and which seem to be a hindrance.

3. To aid in the training of tutors.

Tutors can be asked to compose aloud and analyze their own composing processes. Observations and tapes can be shared among a group of tutors, creating a stock of demonstration tapes and contributing to the tutors' knowledge of the composing process.

In Research Studies

1. To serve as a tool in the description of different types of writers.

Students who are considered skilled writers and those who are considered less skilled can be asked to compose aloud on the same topic. Their composing tapes can be analyzed in an attempt to see whether differences in the way they compose might account for differences in their written products.

2. To help pinpoint the differences in the composing processes of writers of different ages.

A group of writers of different ages, for example, young children, adolescents, high school and college students, and adults, can be asked to compose aloud either on a general topic suggested by the researcher or on topics of their own choosing. The composing strategies used by different age groups can be described.

3. To document the changes in individual writers over time.

Longitudinal studies of a group of writers can be done in which a composing tape is collected every few months for a period of years. Changes over time may reflect a developmental sequence in composing.

4. To study how a particular topic or form of discourse affects the composing process.

A group of writers can be asked to compose on a variety of topics for a variety of audiences. Of interest here would be whether a particular topic, form of discourse or audience elicits a particular kind of composing sequence, whether a writer's process is, for example, more fluent in some forms and for some audiences than for others; of interest, too, would be whether topics of the writer's own choosing produce a different process from that produced by topics imposed by the researcher.

5. To study how the environment affects the composing process.

A group of writers can be asked to compose under very different conditions in order to determine what effect, if any, the setting, time of day and amount of noise have on the process.

6. To study the effects of particular teaching strategies.

Students can be asked to compose aloud on a particular topic before and after a particular classroom technique is introduced. Changes in the composing process as well as in the written product can be analyzed.

General Questions Answered by the Scheme

Whether you are a student, a researcher, a tutor, a lab coordinator, a teacher, or whether you assume a few of these roles, you will need to make decisions about the amount of detail included in your study and how carefully you will follow the outlined procedures. Yet, whether you use the scheme as described or whether you intend to alter

some of the procedures, you can use this method to help arrive at answers to the following questions:

1. How do writers write?
2. What procedures or strategies do they use while writing?
3. Do these procedures or strategies vary according to the form of discourse, the point of view or the topic? If so, how do they vary?
4. Do these procedures vary according to the audience for a given topic or form of discourse? If so, how?
5. Do these procedures vary according to whether or not writers choose their own topics?
6. How does planning occur?
7. What planning strategies do writers seem to use? Do these vary according to the form of discourse, point of view, topic or audience?
8. When and where does planning occur most frequently? Does planning occur throughout the process of writing?
9. What happens before the actual "physical" act of writing begins? Before the pen is brought to the page?
10. How do writers rehearse? Do they have consistent strategies for rehearsal?
11. How do writers move from rehearsing to drafting?
12. Does rehearsal continue throughout the process of drafting? How?
13. What is the place of pausing, of hesitation, of silence in the process?
14. How often and for how long do writers pause?
15. Do pauses occur more frequently during the writing of sentences or between sentences?
16. What is the unit of discourse after which writers pause most? What is the unit of discourse before which writers pause most?

17. What patterns of backward and forward movement can be observed?
18. Can patterns of reading be determined?
19. How often do writers reread what they have written?
20. What sorts of miscues occur during writing? In other words, what sorts of mismatches do writers make when they read their own writing?
21. What is the role of editing in the composing process? What types of editing changes do writers make?
22. When does editing occur? During the writing of sentences? After sentences have been completed? At the end of the process?
23. How frequently does editing enter the process? How long does each editing operation take?
24. What is the seeming effect of editing on the process?
25. How do revision and reformulation proceed?
26. What behaviors are discernable in moving from initial to subsequent drafts?
27. At what point do aesthetic or stylistic changes occur, if at all?
28. What rules or principles do writers call on to guide them in making revisions?
29. At what point and in what ways is composing concluded?
30. With any or several of these questions, how do the relevant factors vary with respect to age, skill level, form of discourse, nature of assignment, setting, audience and so on?

Chapter II

DEVELOPING NEW TECHNIQUES

Given the sheer number of assumptions, theories, methods, and questions relevant to composing, achieving a better understanding of our field will be difficult. We will have to raise questions that heretofore have seemed unaskable; we will have to devise new procedures for obtaining answers; and we will have to be patient and allow these new techniques time to yield the answers we seek.

C. Cooper and L. Odell
Research on Composing

In 1969, Janet Emig asked what then seemed an "unaskable" question: How do 12th graders write? And she employed a new procedure to answer that question: a technique called "composing aloud." Now, for one and a half decades, many researchers have asked similar questions:

- How do children write? What strategies do they use? (Graves, 1973)
- What cognitive processes do adults use as they write? (Flower and Hayes, 1978)
- How do unskilled college writers write and can we develop a method for analyzing their writing processes? (Perl, 1978)
- What differences can be discerned among the revising strategies of college freshmen and adult professional writers? (Sommers, 1978)
- How is pausing tempo related to different forms of discourse? (Matsuhashi, 1980)
- What is the range of revising strategies used by a representative sample of 12th grade writers? (Bridwell, 1980)

- How do students suffering from "writer's block" work through the composing process? (Rose, 1981)
- What composing processes are used by adults who write as a regular part of their daily work in non-academic settings? (Odell and Goswami, 1981)

Like Emig, these researchers have devised methods and procedures to help them arrive at answers to the questions they have posed. In this chapter I will review some of the methods currently being employed by these researchers and will conclude with a description of the approach that forms the basis of the coding procedures used here, "composing aloud."

Methods of Observing the Composing Process

Those who study the composing process generally agree that in order to understand how a process develops, it is important to watch that process as it unfolds. The researcher's task is difficult because some writers neither like nor want to be watched and those who do not mind still compose silently. If, as researchers, we want to capture more than the physical manifestation of writing (i.e., the hand moving and the words appearing on the page), we have to intrude and to find a way of making visible an aspect of writing that is usually hidden: the writer's process of thinking, formulating, and creating.

Choosing an appropriate method for studying the composing process means that we must establish a balance between our goals as researchers and the amount of

intrusiveness we will allow in order to achieve those goals. Several methods currently under use are described below.

Observation with No Interruption of the Process

In this approach, researchers or teachers either sit beside writers and watch what they do, recording their observations in field notes, or they use videotape equipment to record what writers are doing while in the process of writing.

These two methods are the least intrusive for gathering data. Their advantage is that they do not require writers to do anything they would not normally do during composing and thus they create only minimal interference. However, the observers and the videotape equipment are themselves added constraints which writers must learn to accustom themselves to. While unobtrusive, the weakness of these methods is that they provide no data on the writer's mental processes or those decisions made throughout the process that cannot be inferred from a study of the text or reconstructed during an interview after the process is over.

Both of these approaches--direct observation and videotaping--have been used by Graves, Calkins, and Sowers at the University of New Hampshire in their observations of children's writing processes (Graves, 1979). Videotapes

have been used by Matsubashi (1980), Pianko (1979) and Rose (1981) in their respective studies of the composing processes of 12th graders, college freshmen, and college undergraduates with writer's block. Observing writers at work and recording what is seen is also the approach used by the increasing number of ethnographers studying the teaching and learning of writing in the context of the classroom and the community (Florio, 1978; Perl, 1981; Wilson Nelson, 1980; Woods-Elliott, 1981).

Observation with Occasional Prods

In this approach, observers sit beside writers, wait for "natural" breaks in the flow of composing and then ask, "What are you thinking now?" This procedure can also be done without waiting for breaks in the process, by interrupting and questioning writers while they are in the midst of writing.

This method provides writers with the opportunity to write in silence most of the time and provides researchers with the opportunity to tap into mental processes part of the time by intervening sporadically in the process. This technique raises the question of the degree to which interruptions, even those occurring during natural breaks, shift the writer's focus away from the text and interfere with the flow of the composing process.

A variation of this technique has been developed by Peitzman (1981). She asked students to "report in"

about their composing process by talking into a tape recorder at distinct times: before they began to write, while they were writing at moments when they wanted to take a break, and when they were revising after having received feedback from peers and their teacher on their drafts. In this approach, the observer is not present while the writing takes place; as a result, writers are able to work at home, and the tape recorder serves as the "occasional prod," capturing decisions and thoughts that might be forgotten later on.

Interviews with Writers based on Discussion of Drafts

A third approach involves interviewing writers about their writing processes and about the specific decisions they made while they were writing a particular text available to the researcher and the writer. Interviews can be used in conjunction with any of the approaches mentioned above and are usually tape recorded.

While interviews do not intrude upon the process, they do rely on the writer's ability to reconstruct after the fact what was occurring during the writing process. The problem here is that writers may not be able to recall accurately the flow of their thinking and even if they are able to recall some thoughts and decisions, it is likely that they will forget or overlook others. In addition, interviewers' styles and questions may affect the way

writers respond. Despite these shortcomings, however, interviews are commonly used by teachers and researchers to gather information on writers' perceptions of the writing process.

On most research projects, investigators frequently talk to writers about their writing and the changes they see themselves making in their texts. Teachers certainly use conference time as a way to understand the choices writers make. Sommers (1978), in particular, used interviews as a way to determine a writer's scale of concerns during revision.

Recently Odell and Goswami (1981) developed an innovative way of using interviews to collect data on writers' decisions concerning rhetorical choices. In their study of working adult writers, they borrowed the writers' drafts, created options for various phrases in the text and then interviewed the writers on whether or not they would use those options. Their goal was to make explicit the reasoning by which writers make rhetorical choices.

Interviews with Writers based on Replays of Videotapes

This approach builds on observation techniques described earlier. Here, videotapes of writers at work are replayed for the writers following a taping session. The writers are then asked to comment on what they were thinking at specific moments. "Stimulated-recall" is based on

the assumption that writers will recall certain mental processes by observing themselves and then elaborate upon these when questioned by an interviewer. The interviews are generally audiotaped.

Since it occurs after the writing has been done, stimulated-recall does not intrude on the process. Since it is based on videotape, it provides data to stimulate the writer's memory and to supplement the information gained by analyzing changes in drafts. But the technique still relies heavily on the writer's ability to reconstruct thoughts and decisions made throughout the writing process.

Stimulated-recall of videotape sequences has been used by Rose (1981) to study "writer's block." By showing students with writer's block where and for how long they paused while writing, his goals were to trigger the original situation and enable students to describe in detail what was occurring at that time.

Direct Monitoring of the Process by Asking Writers to Compose Aloud

In this approach, writers are asked to "think aloud," to say as much as they can of whatever is going on in their minds while they are writing. If an observer is present, writers are instructed not to engage in conversation; rather they are to consider themselves alone, doing whatever is "normal" for them while writing, walking around, getting a drink of water, only remembering to say whatever

crosses their minds from the time they choose to sit down and write until they decide either that they have completed the assignment or that they need to stop. A tape recorder plays throughout the session, capturing the writer's thoughts, decisions, hesitations, and deliberations.

This procedure is more intrusive than the others mentioned thus far. Since it is the method upon which this manual is based, it is useful to discuss both its shortcomings and strengths.

The most frequent criticism of this approach is that it introduces a factor into the composing process that would not normally be present when people write. It is true that we cannot assume that composing aloud is equivalent to composing silently. In fact, as soon as we ask writers to compose aloud, we have altered their usual writing process by making it visible; we have, in effect, made private experience public, and by so doing, we may have changed the process we are attempting to study.

Second, having asked writers to compose aloud, we have placed additional constraints on them. Writers may become involved with how they sound on tape, with how listeners of the tape may judge what they are saying, and with whether or not they are composing aloud "correctly." Such concerns are obviously not present when writers do not compose aloud and certainly can interfere with the process.

Third, what people say while they are composing aloud is only a fraction of all that is occurring in their

minds. It is impossible for anyone to say everything that comes to mind in a given moment, particularly if during that moment the person is also engaged in the act of writing. Thus rather than providing a total picture of a complex composing process, composing aloud only provides us with a glimpse of this complexity; it gives us a way in.

The limitations of this technique, however, need to be viewed in relation to the goals we set for our research. First, other than interrupting writers at certain points during the process, we have not yet developed any other way to monitor what writers do and what choices they see themselves making while they are in the process of making them. Analyzing changes in drafts and interviewing writers during or after the process are alternate procedures, but they miss much of the ongoing decision-making. Actually hearing the process as it unfolds provides us with information that never appears on the draft and may be forgotten by the time the interview takes place.

Second, the apparent intrusiveness of the approach is not as great in practice as it might seem. Thus far writers of various ages and levels of skill have been able to compose aloud. Some find it easier than others; most find it easier after they do it several times. After the initial try, the fear of the tape and the asides to listeners begin to disappear. After a few attempts, the initial interference is almost totally absent.

Third, the limitations of composing aloud do not invalidate its usefulness. In the sciences, all standard approaches for gathering data are, at some point, known to alter the nature of what is being studied. Physicists, for example, acknowledge that they cannot study subatomic events as they occur "in nature," but only as certain aspects of those events register on their instruments (the Heisenberg principle). These instruments depend on light or on other intrusive electromagnetic radiations which have definite but unpredictable effects on subatomic phenomena. Nonetheless we use these methods to advance our knowledge until superior procedures develop.

Composing aloud has been used by Emig (1969) in her study of 12th grade writers, by Flower and Hayes (1978; 1980) in their studies of adult writers and in my own investigation of the composing processes of college students and composition teachers (Perl, 1978; 1980). While as researchers each of us has used the same approach to collect our data, we have all devised different methods for analyzing our tapes.

The following chapter will present the method I have developed for analyzing the data that result from using composing aloud techniques. What distinguishes this method from the others is that it provides a graphic display of the composing process in considerable detail before that complexity is abstracted into a formal model.

Chapter III
LEARNING TO USE THE CODE

In general, any fundamentally new approach to a scientific problem inevitably leads to new methods of investigation and analysis.

L. S. Vygotsky, Mind in Society

In this chapter I provide a detailed description of the method I have devised to code the composing process. Essentially there are four procedures:

1. Teaching writers how to compose aloud;
2. Taping the composing aloud sessions;
3. Coding the tapes onto composing style sheets;
4. Analyzing the composing style sheets.

Each step listed above will be explained separately. Together they will enable you to code onto a chart what writers say while composing aloud, thereby rendering writers' composing processes into graphic displays. These procedures may be done simply, by using very little equipment, or elaborately, by employing careful controls. Again, how you choose to use the scheme depends on your particular goals, be they those of basic research or those of pedagogy.

Composing Aloud

In this approach writers are asked to "think aloud"; that is, to say as much as they can of whatever is going on in their minds while they are writing. In effect, this procedure asks writers to externalize the ongoing stream of consciousness or interior monologue that accompanies writing. It does not ask them to have a conversation with the observer (if one is present); rather, they are to consider themselves alone, writing in much the same way they would had they not been asked to compose aloud, doing whatever is "normal" for them, walking around, getting a drink of water, only remembering to say whatever crosses their minds.

The procedure is the same whether writers are at home or at school. The only direction writers need to remember is to say whatever is going through their minds from the time they sit down and write until they decide either that they have completed the assignment or that they need to stop.

Since composing aloud is, as Emig has noted, a "specialized form of verbal behavior," it works best if people practice before making a composing tape. In general, the best way for you to prepare for using this approach is, as I suggested in Chapter I, to compose aloud yourself a few times before you ask others to do it.

Taping

Everything writers say aloud during composing is taped. Taping asks a lot of people. Many dislike the intrusion of the tape recorder; others mistrust the use of tapes; some simply panic at the thought of having their voices recorded. As a result, asking people to record what goes on in their minds, even in the service of improved teaching, requires tact and respect. It is important, then, for you to explain (1) why you are asking writers to compose aloud, (2) what you hope to gain from the process, and (3) how you intend to use the tapes.

Once the purpose of a specific project has been discussed, you will also need to discuss the role you will play during the taping. Will you be present? If you are present, will you answer questions? If students fall silent, will you remind them to continue thinking aloud? These questions as well as others concerning the length of each session need to be settled before any taping occurs.

The taping can proceed in a number of settings, at home, in a writing lab or in a classroom. Many schools have language laboratories, which allow for entire classes making tapes at once. Other schools may have sound-proof rooms in which individual tapings can be done. Media centers can also be used to provide help with videotaping and audiotaping of the writing process.

Whatever the specific situation, writers should turn on the tape and begin composing aloud either as soon as

they have been given a topic or when they have decided that it is time for them to start. If you are present, you should sit off to one side, out of the writer's direct line of vision, diminishing any likelihood that conversation will take place (unless, of course, you want to study the effect of conversation on the composing process). If writers are alone either at school or at home, they need to be advised to turn on the tape and do what they would naturally do--make notes, walk around, stare into space--but to remember to say as much of what they are thinking as possible, even when they aren't sure what they are going to write.

Whether you use an elaborate set-up or a simple, makeshift one depends, in part, on the goals of your course or your research design and the facilities available. Yet tapings in any setting are facilitated when the following guidelines are followed:

1. The place for composing should be quiet and free of distractions. Sounds of fire trucks, children, dogs, fans and televisions often make it impossible to hear the writer's voice and waste the effort spent on making the tape.
2. Writers should practice composing aloud with the tape on to make sure that both the sound of their voice and the sound of the pen moving across the page are picked up on the tape. Writing on only one piece of paper (not on a pad) on a hard surface usually ensures that the sound of the pen or pencil will carry. Writers who prefer using pads must make sure the tape recorder is close enough to catch the sound of the pen moving across the page.
3. Writers and researchers should familiarize themselves with the tape recorder and should have extra blank tapes available for emergencies.

Trying to figure out how the tape recorder works in the middle of a composing session is distracting and frustrating.

4. If writers are nervous about the tape recorder, the machine should be placed out of sight and an attached microphone placed on the table.
5. Each tape and each written draft should be labelled as soon as the session is over with the name of the writer, the topic, date, time, and place.

Coding the Composing Process

After the taping has been completed, the material can be coded. By listening to the tape, coders can hear, among other things, when writers are talking, when they are writing, when they are doing both simultaneously, and when they are remaining silent. In the present scheme, composers' observable activities (talking and writing) will be referred to as behaviors. Depending on the context in which they occur, behaviors may serve different functions in a person's composing process. For example, at one time talking can serve a planning function with writers indicating how they will proceed; at another time talking can be a form of rehearsal, enabling writers to try out alternate formulations of ideas prior to writing. Thus at the core of this scheme are the judgments coders make, while listening to the tape, as to what comprises a unit of behavior and what function each unit plays in the composing sequence.

Experience to date with this method suggests that the functional units fall within a relatively small number of

categories. Codes for specifying each unit are used as coders listen to the tapes and chart what they hear onto a timeline; the timeline provides a way of indicating both the order of each unit and the length of time each unit lasts within an entire composing sequence. Together the timeline and the codes form a composing style sheet, which constitutes a graphic display of the composing process that can then be analyzed.

There are, then, three components to coding: listening to the tape and determining the function each behavior has in the process; constructing a timeline; and placing the code for each unit on the timeline to produce a composing style sheet. Each will now be explained in detail.

Determining functional units. The strategy used in this scheme is to categorize all observable behaviors recorded on tape, unit by unit. Deciding what constitutes a unit or where one unit ends and another begins is the most taxing part of this scheme. The most useful guide here is the recognition that in order to create a unit from a given bit of speech, coders must consider the function each unit plays in the context of a composing sequence. For example, taken in isolation the statement, "I better add something here" could be coded as planning, indicative of the writer's decision to add something to the text. But, when viewed in the context of a fuller statement, like, "Well, let's see, is this really what I meant to say? I don't think so. I better add something here to make the

meaning clearer," the statement could be coded more accurately as revision, indicative of the writer's rethinking a segment of the written text and planning a change as a result. In ~~this case~~ a subscript to indicate the aspect of planning included in revision could be added to the symbol for revision.

Selecting the appropriate code and subscript is, in part, a question of goal. Teachers interested, for example, in editing techniques might invent a range of subscripts to classify the kinds of editing decisions made by writers. Researchers interested in planning strategies might choose to classify those behaviors in greater detail. But even with a carefully articulated focus and trained coders, researchers may find some statements on the tape difficult to code. In instances in which a given statement seems to imply two functions, a dual code can be used. In the event that writers' statements serve functions I have not provided for in the categories listed below, new categories may need to be devised.

It is important, though, that all statements on the tape be coded so that the whole of a given writing sequence can be portrayed in its integrity. Ignoring statements or deciding that certain behaviors are not relevant can distort the research.

Finally, it is important to remember that since everything on a given tape can be coded, how detailed the coding

becomes is a function of your interests and goals. In ambiguous cases where functions overlap, it is best to select a particular code, explain the logic dictating your choice to readers of your research and remain consistent throughout the coding process.

What follows below are the categories I have devised and used in research studies and classroom teaching situations. I will present an overview (Table I) of the categories first and then an explanation of each one. In Chapter IV, I will provide an example of how the codes are applied to an adult writer, named Vern. After studying the definitions and their application, you should be ready to code tapes of your own.

TABLE I
CATEGORIES FOR CODING:
FUNCTIONAL UNITS

MAJOR CATEGORIES

Pl	- Planning
C	- Commenting
Rh	- Rehearsing
Rh-->W	- Rehearsing leading to writing
SW	- Speaking the words while writing them
Q	- Questioning
A	- Assessing
R	- Reading
RM	- Reading Miscue
W	- Writing (Drafting)
RV	- Revising
E	- Editing
U	- Unintelligible remark
re	- Repeating phrases or sentences
s	- Pauses or periods of silence
MC	- Metacommenting
RI	- Researcher Intervention

TYPES OF EDITING CHANGES

add	- Additions
del	- Deletions
gr	- Grammar
punc	- Punctuation
sp	- Spelling
ss	- Sentence Structure
vc	- Verb Form

TYPES OF REVISING CHANGES

add	- Additions
del	- Deletions
sub	- Substitutions
wc	- Word Choice

POSSIBLE SUBSCRIPTS

T	- Topic
env	- Environment
ca	- Composing Aloud
aud	- Audience
w.l.	- Writer's Life
d	- Directions
s	- Statement
q	- Question
n.d.	- Next Draft
n.s.	- Next Sentence
end	- Ending
f	- Form
c	- Content
s	- Style
t	- Tone
v	- Voice

Planning (P1)

Planning refers to instances in which writers say what they think they will do in the course of writing. It includes the times they organize their thoughts for writing and discuss how they will proceed. There are many things writers do that have the character of planning and many types of plans. Some are local, referring to something that may happen in the next bit of writing; some are global, referring to an overall structure the writer may follow or setting out an approach that has several steps. Whether you choose to code for local or global features is, again, a function of your interests. There may be times when researchers are interested in examining the various types of plans that writers make, in which case distinctions such as global planning (Plg) and local planning (Pl1) may be important. On other occasions, solely coding for planning may suffice. Nevertheless, whether plans are local or global, they tend to fall into one or a few of the following categories:

1. They are statements that propose a general strategy for proceeding:

"Well, let's see, first I'll read the question over again, then I'll see if I get any more ideas and then I'll write."

or

"I'll just start it and see what happens."

2. They are statements that suggest a number of possible alternatives:

"Maybe I should start by explaining but, wait, another way would be to begin by giving an example."

3. They announce either an intention or a decision to do something with the text. Examples include:

"Should I start a new paragraph? What do I want to do? Tell how nervous I was? Right. Why I was nervous? Yeah. A new paragraph."

or

"I really have to stop here and see if I'm making any sense."

Or some shorter examples:

"I think I better start over."

"O.K., so I'll just put the ending here."

"Wait, I better stop and reread this."

"I'll take care of this on the next draft."

4. They set up a general structure for the paper:

"I'll take care of 'X' in the first paragraph and 'Y' in the second and then I'll have answered both parts."

Commenting (C)

This category refers to any statements writers make about themselves, the room they are in, their state of mind, their perception of the topic or the way the session is going. It is distinguished from planning in that it does not refer to what the writer will do next; it is distinguished from rehearsing in that it does not develop ideas on the topic. Commenting also includes statements in which the writer is addressing those who will listen to

the tape and monologues during which the writer speculates on something related to his or her personal life. Speculations may be evoked by something in the topic but may not be explicitly related to what the writer is writing about. Sometimes speculations are evoked by something the writer has discovered through writing and occur at the end of the writing process.

Examples fall into the following categories:

1. Observations writers make about themselves as writers (the focus here is on the writer, not on the text):

"I really have a hard time writing."

"I'm not the kind of writer who likes to think a lot."

"I really don't want to edit this."

"I hate to do a second draft."

2. Observations writers make about themselves in relation to the topic they are writing about:

"Boy, I have a lot to say on this topic."

"This topic is getting to me; it's really difficult."

3. Observations writers make that lead them away from the writing and call attention to other aspects of their experience:

"I'd like to have a cigarette now. Can I do that while the tape is going? Why not?"

"It sure is hot in here tonight. And there's so much noise next door."

4. Observations they make about the process of composing aloud:

"I never had any idea that composing aloud would take so much time."

"It's tricky to talk and write at the same time."

5. Comments writers make to those they know will be listening to the tape:

"I hope I don't bore all of you when you listen to this."

Rehearsing (Rh)

Rehearsing refers to whatever writers do to develop what they want to say. It includes voicing ideas on the topic, trying out different approaches or repeating key words, sometimes in a questioning tone. During rehearsal, writers are finding their way and are not necessarily committed to using all they are saying. Rehearsing also refers to instances in which writers acknowledge explicitly what they will write about and develop the topic or point while speaking. Rehearsing is distinguished from planning and commenting in that it is explicitly related to the development of content--to what writers are or eventually will be writing about. As with planning, it is possible to code for types of rehearsal. For example if writers rehearse by asking themselves questions, it is possible to add the subscript for questioning to the symbol for rehearsing (Rh_q).

Rehearsing leading to Writing (Rh-->W)

This refers to instances in which writers are rehearsing for a period of time and suddenly voice a phrase or a sentence which leads them to the page, either to begin or

to continue writing. Rehearsing leading to writing often turns into speaking the words while writing them.

Speaking the words while writing them (SW)

This refers to periods when writers, as a function of composing aloud, seem to be dictating to themselves. In other words, what they are saying is being written almost at the time they are saying it. When listening to the tape, coders will hear the voice and the pen together in what sounds like simultaneous movement.

Questioning (Q)

Questioning can occur in two ways. When an observer is present, writers occasionally ask for a clarification about the directions or for help. Writers also ask questions of themselves during the writing process, often as a strategy for developing the topic.

Examples include:

"What do I know about this?"

"Is this too long?"

"Should I reread now or keep writing?"

It is also possible to use the symbol for questioning (Q) as a subscript (q) and link it with codes that indicate the function of each question. For example, the last question here, "Should I reread now . . . ?" could more accurately be coded Plq, indicating that the writer is wondering what to do next (planning) and voicing this as a question.

Assessing (A(+); A(-))

This refers to instances in which writers make judgments about what they have written. They may be positive, negative or neutral.

Examples include:

"Okay, that sounds good."

"This is really not what I wanted but I guess I'll leave it."

"This could have been better."

"Sounds awkward."

"Well, it's not great; it's not bad."

"In general, I'm pleased with the overall format."

"This has become so familiar, I can't imagine how I would change it."

Reading (R)

This refers to periods when writers read and can be subdivided to indicate whether they are reading their own writing or something they have been given to read (such as directions, a question or a topic). The subdivisions can be coded as follows:

Reading of materials provided by the researcher (note that this type of reading is distinguished by the use of subscripts):

Reading the directions (R_d)

Reading the question (R_q)

Reading the topic (R_T)

Reading related to the writer's own written product (note that this type of reading is distinguished by the use of superscripts):

Reading the topic written on the draft	(R ^T)
Reading sentence #1	(R ¹)
Reading sentences 2-5	(R ²⁻⁵)
Reading the first paragraph	(R ^{P1})
Reading an entire first draft	(R ^{W1})

When coding reading behaviors, it will become obvious that many writers do not read their own texts accurately. In fact, most writers pronounce or "read in" words or word endings that are not present in their written drafts without realizing it. Based on work in reading research (Goodman, 1973), the study of "misreading" or miscue analysis has generally been applied to the way readers read texts other than their own. It can also be applied here to help us understand how writers read their own texts. For those interested in documenting the miscues writers make while reading their own texts, the following categories and codes are offered.

1. "Reading in" words or word endings (as if they were present in the text) (RMadd)
2. Deleting words or word endings from the text (RMdel)
3. "Reading" a word or phrase the writer "expected" to see rather than the actual word or phrase on the page (RMsub)
4. "Reading" misspellings as if they were written correctly (RMsp)

Miscues provide a way of understanding how writers make sense of their written texts. For teachers and researchers interested in interpreting the findings of miscue analysis, recommended readings are included in the references at the end of the manual.

Writing (Drafting) (W)

Writing occurs in two ways: silently and aloud. When it occurs silently, all that can be coded is the sound of the pen moving across the page and the number and duration of pauses that interrupt the writing flow; when it occurs aloud, both the pen and the voice are coded as explained above in speaking the words while writing them (SW).

Repeating (re)

Both in reading and talking, writers tend to repeat phrases or sentences. This repetition can be coded.

Pauses or periods of silence (s)

Throughout much of the process, writers may pause or remain silent. This can occur before any writing takes place, while sentences are being written or in the time between the writing of sentences. These pauses can also be coded.

Revising (RV)

Often during drafting, writers discover that what they have written does not adequately capture what they intended

to write. At other times writers discover that what they intended to write changed as a result of their having been engaged in the act of writing. In either case, these discoveries lead writers to make changes in their texts. These changes fall under the category of revision.

Often revisions are small, occurring at the word or phrase level. At other times, revisions are extensive and involve the rewriting of sentences or major portions of the discourse. Occasionally revision entails the discarding of one text and the creation of an entirely new one.

At times it may be difficult to distinguish revision from rehearsal. At some points, they probably are indistinguishable. As we rehearse, we revise and as we revise, we rehearse. But for the coding of behaviors, the following distinction has proven useful:

When writers are in the process of selecting and discarding words or planning alternative phrasings and approaches, but they have not yet actually committed any of these words to the page, their behavior is coded as rehearsal (Rh).

After writers have produced a piece of discourse (even a partial text) and during drafting or rereading, they begin to examine the words on the page to see whether those words adequately capture what was intended, their behavior is coded as revision (RV).

The following subscripts may also be used to identify types of revisions:

1. Adding words, phrases or clauses (RVadd)
2. Deleting words, phrases or clauses (RVdel)
3. Substituting one word or phrase for another (RVsub)
4. Looking for the appropriate word (word choice) (RVwc)
5. Planning to make a change in the text (RVpl)

Some simple examples of revision include the following:

"Dread." Is that too strong a word? I think I better change it.

There are too many "I's" in here. I'll have to take some out.

Let's see. I know this doesn't feel complete. I may need to go back and add another example. I think I better put the "exam room" first.

Editing (E)

Writers also engage in editing. This refers to instances in which writers examine the surface level of their prose, checking to see if the formal aspects of their language (i.e., grammar, spelling and punctuation) conform to the rules of edited American English (or to whatever other system they may be working in). At times it may be difficult to distinguish editing from revising. In fact, they are so closely related that at times an editing change will lead directly to revision, and at other times revision will bring about the need for editing. As a rule of thumb,

it may be helpful to think of editing as the task of a copyeditor or proofreader. Subscripts may be used to distinguish one type of editing change from another. The subscripts for editing can include the following:

1. Adding syntactic markers (Eadd)
2. Deleting syntactic markers (Edel)
3. Indicating concern for a grammatical rule (Egr)
4. Adding, deleting, or considering the use of punctuation (Epunc)
5. Considering or changing spelling (Esp)
6. Changing the sentence structure through embedding, coordination or subordination (Ess)
7. Considering or changing verb form (Evc)

Metacommenting (MC)

Metacommenting indicates that writers have shifted to a different level of perception. It refers to instances in which writers become conscious of the units of behavior that comprise their composing process and then exit momentarily from the writing task to call attention to these units. It is not the same as comments on composing aloud (Cca) such as "This is hard." A comment such as the latter is an incidental thought that occurs to writers about what they are doing, but without constituting a recognition that amounts to coding one's own behavior while writing. Metacomments, on the other hand, do apply the coding scheme

because they refer knowledgeably to one's own behavior in terms of the categories discussed here.

Examples include the following (The reasons why these statements are examples of metacomments will become clear after you read Chapter V):

"A little rereading here."

"That's it. Go back to the topic."

"Going back to what I wrote to help me discover what I want to write next."

Researcher intervention (RI)

When the researcher or observer chooses to intervene during the composing process, the occurrence and nature of this intervention should also be coded. Different types of interventions can be distinguished as follows:

1. Researcher questioning the writer directly (RIq)
2. Researcher answering a question from the writer (RIa)
3. Researcher refocusing the writer on the task or on the composing aloud directions (RIrf)
4. Researcher interviewing the writer at the end of the session (work summary) (WS).

Constructing a timeline. By learning to listen for specific behaviors that occur while writers compose aloud and then designating the function of these behaviors, you will have mastered the first step of coding. However, deriving functional units from taped comments will not in itself provide you with a way to view the frequency and the

duration of each unit or the relation between one particular unit and the process as a whole. You need to see the composing sequence depicted graphically, on a timeline that reflects the sequence and duration of each functional unit, in order to answer such questions as: what role does planning play? How much time do writers spend editing their work? When do pauses occur in the process and how long do they last?

~~Constructing a timeline is relatively easy.~~ All you need is a blank piece of paper and a ruler. The timeline has dashes and a numbering system spaced across an entire sheet of paper (see Figure 1 for an example). Once you have constructed a timeline, you need to determine a time interval that corresponds to the numbers on the line. In classroom situations, it may not be necessary to account for every minute; in research studies it is likely that the observations will need to be more finely tuned. For the latter the following guidelines have proven useful:

1. Timelines should be numbered so that the composing tape can be analyzed in terms of minutes.
2. It is most efficient to monitor time by using a tape recorder that has a built-in counter. If one is not available, it is possible to use a stopwatch.
3. Many counters on tape recorders are set up so that a 10-digit interval corresponds to one minute. Check your own tape recorder to see what time interval the first 10 or 12 digits correspond to. If, for example, 1-12 equals 1 minute, it will be preferable to construct a timeline in multiples of 12, so that each unit can be analyzed in terms of minutes. For example:

 10 20 30 40 50

1 - 10 minute Entire line = 5 minutes of composing

 12 24 36 48 60

1 - 12 = 1 minute Entire line = 5 minutes of composing

4. If you do not have a counter on your tape recorder, you can code your tapes by using a stopwatch and stopping both the watch and the tape each time a new behavior needs to be marked down on the timeline. Such a procedure is cumbersome and can best be handled when two people do the coding together.

It is important to remember that tapes can be coded without any reference to time. This will provide information on what writers do as they write and how frequently they perform each behavior. Missing would be data concerning how long each behavior lasts.

Charting the behaviors. This step brings together the two previous ones: in it, coders take the categories that have been devised and chart them onto the timeline. It occurs in the following manner:

1. Coders number each sentence in the written product.
2. With a blank timeline in front of them, coders listen to the tape.
3. They determine, according to the code, what the writer is doing, including what sentence the writer is working on.

NAME _____

DATE _____

TOPIC _____

TIME _____

CODER _____

10	20	30	40	50
60	70	80	90	100
110	120	130	140	150
160	170	180	190	200
210	220	230	240	250
260	270	280	290	300

1-10 = 1 minute

Figure 1. Composing style sheet.

4. Watching the counter, they note the number at which the first behavior begins and the number at which it ends, as well as whether it is occurring while a sentence is being written or before or after.
5. They note the code for this behavior at the appropriate place on the timeline and include the brackets that indicate sentences, if appropriate.
6. The procedure is repeated for each new behavior until the tape has finished playing.

It looks like this:

Assume that a writer, named Kate, has agreed to compose aloud, has been given a topic, and has turned on her tape recorder. She might begin by reading the topic twice and then planning how she will begin. If this all occurred within the first minute, the timeline would look like this.

R _T	R _T	P ₁

10		

If at this point Kate spends two minutes writing the first sentence, during which time she pauses, returns to read the topic, continues writing and then edits for spelling before continuing on, it would look like this:

1	

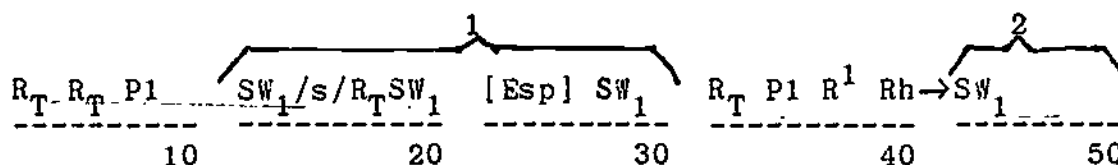
SW ₁ /s/R _T	SW ₁ [Esp] SW ₁
-----	-----
20	30

At this point two types of brackets and numbering systems have appeared. The initial subscript linked with the SW code indicates which draft Kate is working on. SW₁ indicates that she is writing her first draft; SW₂ and SW₃ later on will indicate that she is writing her second and third drafts. Brackets such as [Esp] separate editing from writing and indicate the amount of time editing takes. The number written above the horizontal bracket indicates which sentence in the written product Kate is writing and the length of the bracket indicates the amount of time she has spent writing that sentence.

Reading behaviors are also noted. If Kate writes the topic down on her paper and then reads it back to herself, this is noted by the symbol for reading written along with the superscript for topic (R^T). If Kate reads the fourth sentence after having written it, it is noted as R⁴; if she reads the fifth, sixth, and seventh sentences together, it is noted as R⁵⁻⁷; if she repeats only phrases from the tenth sentence, it is noted [re¹⁰].

Additional annotations. Occasionally it is useful to annotate the charts with comments that explain precisely what the writer is doing. Process comments may include the observer's opinion of whether the process is slow or fast. Content comments may include specific statements made by writers or the words or grammatical problems that they find particularly troublesome.

Thus the following line from a sample composing style sheet for Kate will provide the following information:



1 - 10 = minute

1. Kate began writing after 1 minute. Before she began, she read the topic twice and organized what she would do.

2. She spent 2 minutes writing the first sentence during which time she paused once, read the topic again, and interrupted herself to edit for spelling.

3. Sentence 1 did not lead directly to sentence 2. Rather, after sentence 1, Kate spent one minute rereading the topic, planning in more detail what she might do, reading over what she had already written, and rehearsing her ideas on the topic which then led her directly into her next sentence.

4. She spent 1 minute writing her second sentence which occurred without pause or hesitation.

Reliability

Over the past few years, several dozen graduate students and experienced teachers have been introduced to this scheme. They have studied examples of my own coding of transcripts, developed their own tapes and charts, and discussed their work together. Occasional disagreements have arisen as to what to include in a given unit or what label to apply. But these have been readily resolved

through discussion. Overall, the impression generated by this experience is that the present scheme is sufficiently attuned to what is directly observable to allow for acceptable levels of agreement between coders who analyze the same material independently. To date, however, the research required for a rigorous assessment of interrater reliability has not been conducted.

Analyzing the Composing Style Sheets

The charts of composing style sheets do not explain what writers wrote but rather how they proceeded. They indicate the sequence of behaviors that occurs from the beginning of the process to the end. From them it is possible to determine where and how these behaviors fall into patterns and whether these patterns vary according to the topic, the form of discourse or audience.

The charts can be read by moving along the timeline, noting which behaviors occur in what sequence.

From the charts, considerable amounts of information can be gleaned, including the following:

1. the amount of time spent before the writer begins drafting the piece;
2. the strategies used during this preparatory period;
3. the amount of time spent writing each sentence;
4. the behaviors that occur while each sentence is being written;

5. when sentences are written in groups or "chunks" (fluent writing);
6. when sentences are written in isolation (choppy or sporadic writing);
7. the amount of time being spent between sentences;
8. the behaviors that occur between sentences;
9. when revising and editing occur (during the writing of sentences, between sentences, in the time between drafts);
10. the frequency of revising and editing behavior;
11. the nature of the revising and editing operations; and
12. where and in what frequency pauses or periods of silence occur in the process.

There are, in addition, many ways to analyze the charts, at various levels of inference. The following rubrics are suggestive of the variety of uses that can be made of the charted data:

1. Doing Simple Counts: Here the basic analytic tasks are almost clerical in nature. Symbols have to be counted, which then allows the observer to tabulate and cross-tabulate the numerical data to address questions such as: How often do writers plan? revise? edit? What is the proportion of planning or revising or editing time in relation to the overall process? How long do writers spend rehearsing? How much time is devoted to drafting? Do these counts differ for different topics, points of view, forms of discourse?
2. Looking for Patterns: Here the rigorous but ~~mechanical counting procedures~~ are set aside in order to generate hunches or hypotheses. These come by studying the charts for relational rather than strictly quantifiable aspects to address questions such as: Do certain sequences of behavior recur? What are the common patterns?

Is the sentence the consistent unit of discourse? If not, what is? When does rereading occur? Where do pauses occur? Before what syntactic or rhetorical structures do writers pause most?

3. Building Theory: Here the charts provide a way to steep oneself in systematic observations until a holistic perception emerges of the process. These perceptions are not directly testable but are, rather, fresh viewpoints that can provide valuable responses to such general questions as: What role do the various subprocesses play in the entire process? What does the function of rereading seem to be? How does planning work? What role does editing play?

Chapter IV will provide an example of how these questions can be addressed through the examination and analysis of the composing process of one writer.

Chapter IV

WATCHING ONE WRITER AT WORK: VERN

When I was told to compose aloud, I followed the instructions to the letter; I did not allow myself to think about the topic at all before sitting down. This was a deviation from my normal procedure which is to allow my thoughts to incubate in my mind over a period of days before writing. Consequently, I found it very difficult to get started. I had short-circuited my pre-writing phase and was in a state of mild panic when forced to do it aloud. When I finally decided on a topic, the writing of the composition itself was fairly quickly and smoothly done. My thoughts came out in correct sentences. By going back to what I had written, I found the impetus to continue writing, and, also, an incipient structure and logic took shape as I progressed.

Vern
New York City Teacher

Vern is a teacher of writing. In 1979, he was among a group of twenty teachers who were taking a course in research and basic writing at New York University.¹ One of the assignments for the course was for the teachers to tape their thoughts while composing aloud on the topic, "My Most Anxious Moment as a Writer" and then to code their tapes according to the scheme described in Chapter III. The teachers were given the topic in the morning during class and told to compose aloud later on that day in a place where they would be comfortable and relatively free

¹I taught this course with Gordon Pradl, Associate Professor of English Education at New York University.

from distractions. Everyone was instructed to bring the composing aloud tape back to class the next day for discussion. No one in the group had received any training in composing aloud nor had anyone been given more than a brief introduction in how to use the coding scheme. Nonetheless, all of the teachers in the group succeeded in composing aloud and in constructing a composing style sheet of their writing process.

What follows are (1) a typed copy of Vern's written draft in response to this topic; (2) a composing style sheet based on his composing aloud tape (originally coded by Vern, later reworked by me as I developed new categories); and (3) a transcript of Vern's composing aloud tape. Alongside his actual statements in the transcript is a running narrative of my observations regarding what he is doing.

I want to emphasize that when Vern originally constructed a composing style sheet of his own, he did not work from a transcript but from his actual tapé. I have included a transcript here so that you may gain an understanding of what a composing aloud tape sounds like and how you might go about coding the statements you hear on it.

At the end of the chapter, I will make some observations about Vern's composing process and raise some questions about the nature of composing.

Vern

My Most Anxious Moment as a Writer

My most anxious moment as a writer is probably most likely the present moment.^{1/} Usually, when I am forced to write, I have a period of time during which I can mull over the topic.^{2/} Therefore, when the time comes to put pen to paper, the composition is more or less written in my head, that is to say, that I, at least, have a general idea of what I am going to write and how the parts interrelate.^{3/} For this composition, however, I deliberately kept myself from thinking about the topic.^{4/} Consequently, the ideas are not flowing as they usually do.^{5/} Add to this the fact that I feel constrained to put something down on paper, and one can easily imagine why this particular moment is my most anxious as a writer.^{6/}

NAME Vern

DATE July 1979

TOPIC My Most Anxious Moment as a Writer

TIME Evening, at home

CODER Vern, recoded by Perl

Rt Rh re C re Rhq C Pl	Title SW1 Cca RT Cca	RT Rhq re re Caud Rhq	Rh→C C RT MC→Rh	RT Rhq Rh re MC A(-)
10	20	30	40	50
RT MC Pl RT Rhq MC Rh	MC C Pl	SW1 A(-)R1SW1[RVsub]SW1	SW1 R2 [Cw1]	R2 MC R2→SW1 re re
60	70	80	90	100
R2 A SW1 C R3 SW1	A SW1	[Esp] [MC]PlCreCQreCreCre	A(+)] R3 MC R1-3 /s	SW1 C R4 SW1
110	120	130	140	150
Cre E reRhqR4 Rh→SW1	A SW1 Caud R6 R5+6/	s/SW1	Qend C C	Plq C A(+) C
160	170	180	190	200
/s/ Pl→R1-6	A C	C /s/C A(-)	MC C	C
210	220	230	240	250
C A(-)				
260	270	280	290	300

1 - 10 = 1 minute

58

TRANSCRIPT OF "MY MOST ANXIOUS MOMENT AS A WRITER"

Observations

Vern has turned on the tape and made the decision to start.

He reads the topic he has been given and
(R_T).

begins talking about it.
(R_h)

Notice that as he rehearses, a key word in the topic is continually repeated.
(re)

He then comments about the difficulty of the task,
(C)

repeats the key word
(re)

and continues rehearsing, developing the topic by asking himself questions.
(R_hq)

Another comment inserts himself here
(C)

Now he hits upon a strategy--a plan--try writing the topic down.
(P1)

Taped Comments

OK, here goes

My most anxious moment as a writer.

That may very well be this moment right now

Ah, I don't know if I'm anxious, I'm nervous. Now, anxious moment

It's difficult writing under pressure like this

-anxious-

Why would I be anxious writing? Writing for someone whose opinion I value? Writing for a grade maybe?

It's difficult to think

Let me see, maybe if I write it down

He begins speaking and writing at the same time.

(SW₁)

Now he makes a comment about the entire process he's been asked to do and how it is affecting him.

(C_{ca})

He returns to read the topic he has now written down as a title.

(R^T)

Another comment on the composing aloud process

(C_{ca})

Reading the topic again.

(R^T)

He continues rehearsing by asking himself questions. Notice the key word being repeated.

(Rhq) (re) (re)

Now a comment to the audience that will hear this tape and a reference to Tony, whose tape his class had listened to.

(C_{aud})

My Most Anxious Moment as a Writer

Now normally I don't have to write down a title. I usually take some time out to compose my thoughts but the nervousness of talking, saying out loud what I'm thinking, is blocking my usual composition process.

Ah. my most anxious moment as a writer.

I feel obliged to say something. I can't stop talking and just think. I guess I better or I'll never get anything down on paper and then again I'm supposed to say what I'm thinking. It's kind of a quandary here.

Ah, my most anxious moment as a writer

Let's see if I pick right now, what can I say? Right now, why am I anxious right now? Why am I anxious right now?

You know, I really admire Tony. He seemed so uninhibited about saying exactly what was in his mind and yet I know that 20 of my peers are going to be listening to this and I feel quite foolish.

He refocuses himself on the task at hand by asking himself more questions, again a form of rehearsal. In answering his own question he continues rehearsing which leads him to make a comment about himself. Then once again he refocuses himself on the task.

(Rhq) (Rh->C) (C)

OK, right now why am I anxious? Why would I be anxious writing? God, ah, I succeeded all day in not thinking about this and I suppose I would like to continue not thinking about this and not doing it. Ah, but it's late so I better get it done.

He reads once again what he has written as the topic.

(R^T)

My most anxious moment as a writer

This is his first metacomment. Here he's becoming aware of what he is doing and drawing attention to it.

(MC)

Ah, reflecting on past writing experiences again.

Now rehearsal becomes even more pronounced. He begins developing the topic in greater depth although he speaks tentatively as though he is not quite sure where this is all leading.

(Rh)

What I usually do is think about this. If I'm given an assignment, ah, I think about it on the way home or sitting in the library. Ah, I think about it for a couple of days, kinda let the, ah, ideas germinate in my head and I guess what I'm trying to say, in other words, that this isn't my normal composing process, that there is an important pre-writing step missing which usually lasts a number of days and I'm finding it very difficult just to sit down and eliminate that incubation period and write.

Since the topic for this assignment is on the act of writing, rehearsal for the topic may appear as a series of extended metacomments. Since the ideas Vern is voicing here eventually contribute to his creating his text, I choose to code these statements as examples of rehearsal. This is, however, an arguable case.

Again, he reads what he's written and continues rehearsing, asking himself a question and looking for an experience to fit the assignment.

(R^T) (Rhq) (Rh)

God, ah, my most anxious moment as a writer. The English essay exam? I wasn't anxious writing it. I was just worried I wouldn't pass it--you know--

He repeats a key word.
(re)

My most anxious

He notices what he is doing (metacomment).
(MC)

back to the title again, back to the topic

His first assessment is negative.
(A(-))

God, this is awful, this is really bad news

He is reading the topic again
(R^T)

My most anxious moment as a writer

He exits from the process to notice how long it is taking (metacomment). This observation leads him to suggest a strategy, a plan, just start writing. This seems an impossibility since he still has no exact "moment" in mind.

(MC) (P1)

This pre-writing period is lasting a long time. Maybe I should just jot something down. Maybe I should just start--but I have to pick a moment. I can't just put my pen on the paper and say, 'Hey, do your thing.'

He reads the topic again,
(R^T)

Ah, God, My Most Anxious Moment as a Writer

Again, a questioning technique is employed as part of rehearsal.
(Rhq)

Let me see--for whom have I written in the past?

A metacomment and then
an answer to the question.
(MC) (Rh)

Ah, that's it, go back to your previous
experiences--high school, college, no--
I wasn't worried then.

Finally, he finds the
moment--it's now--and he
begins developing,
explaining how this moment
differs from his other
writing experiences.
"Shaping at the point of
utterance" is a reference
to the work of James Britton
that seems to have emerged
through association.
(Rh)

I don't know--I guess this must be my
most anxious moment because usually I
just--I write it at the last minute and
I never look it over--I write it, type
it over, and hand it in, shaping at the
point of utterance, whatever

Again a metacomment on
his own progress.
(MC)

I'm not doing much writing here.

A stray thought.
(C)

Ah, shall I cheat and turn off the tape?
Nah, what for?

Finally, a plan, a
strategy--I'll write
about right now.
(P1)

Well, instead of just verbalizing and
speaking out loud maybe I'll just
write about right now--I'll use the
title as the topic sentence--basic
strategy here.

He begins speaking the
words while writing them.
(SW₁)

My most anxious

He interrupts himself to
indicate his displeasure
with the phrase and
(A(-))

sounds so grade schoolish

continues on, reading the
first three words and
writing four more.
(R₁) (SW₁)

My Most Anxious/ Moment as a
Writer

Here he revises at the word level and substitutes most likely for probably.

(RV^{WC}_{sub})

(SW₁)

is probably most likely--put most likely down--is most likely the present moment

This first sentence leads directly to the next.

(SW₁)

Usually when I am forced to write

The phrasing here "forced to write" leads him to digress. He's struck by the fact that although he believes in the value of writing, he only does it when he is forced to.

This idea never enters the paper but he returns to it continually throughout the process.

(Comment on writer's life.)

(C_{w1})

"When I'm forced to write"--something I've wanted to do--I wanted to sit down and use writing as discovery, writing for values clarification, but I never manage to sit down and do it. I always need this threat of sorts hanging over my head, like this paper is due tomorrow and every time I'm writing at two o'clock in the morning saying, 'Hey the next time I'm going to do it right away and not have this hassle at the end'--never works--maybe now--enough of that--onward and upward.

After the digression he returns to read the first half of the second sentence.

(R²)

Usually when I am forced to write

He is aware that he returned to read.

(Metacomment)

(MC)

going back to what I wrote to help me discover what I want to write next

He reads it again and continues on speaking the words while writing them, repeating various phrases.

(R²) (SW₁)

(re) (re)

Usually when I am forced to write--Ah, I have a period of time during which I can mull over--can mull over the topic --can mull over the topic.

Having written the second sentence, he reads it over and assesses it.

It's O.K.
(R²) (A)

He continues on composing the third sentence aloud.

(SW₁)

He interrupts himself, wondering about the tape recorder.

(C)

Usually when I'm forced to write, I have a period of time during which I can mull over the topic. O.K. Period.

Therefore, when the time comes to put

God, I hope my tape recorder is picking this up. I'd hate to do this twice.

He reads the beginning of sentence three over again and continues on. He assesses the sentence, then continues speaking and writing.

(R³) (SW₁) (A)
(SW₁)

Therefore when the time comes to put pen to paper, the composition is more or less written in my head. O.K. That is to say, that I, at least, have a general idea of what I am going to write and how the parts interrelate.

He notices a tricky spelling, decides to check it later--recognizes that editing has entered the process and decides to check it now.

(Esp) (MC) (P1)

"Interrelate"--must be with two r's I'll check it later in the dictionary--a little editing--I'll check it now.

He explains his decision,
(C)

I don't like to look this thing over after I've finished

repeats the word and
(re)

-Interrelate-

continues commenting on why he doesn't look his work over.

(C)

I know that's not a good practice. I'm not sure why I do it--I guess after writing the thing that I put enough effort into it, that I approximated what I wanted to say and basta.

He has to remind himself of the word he's working on--he repeats it, continues commenting, repeats it a few more times, finds it, and acknowledges that he has spelled it correctly and
(Q) (re) (C) (re) (re) (C)
(re) (A(+))

reads part of the sentence over.
(R³)

Here, once again, he notices his process (metacomment).
(MC)

reads sentences #1 - #3 quietly
(R 1-3)

and begins composing sentence four.
(SW₁)

Here he makes a comment, ostensibly to the audience.
(C)

Then he reads sentence four over again.
(R⁴)

Now he begins sentence five,
(SW₁)

inserts another comment,
(C)

O.K., what am I looking up? Interrelate- I'm pretty sure what I wrote is right but it doesn't hurt to check--inter-inter-interrelate--(going through dictionary). Dictionary skills. Inter-relate. O.K.--correct on my word. Thank you Mr. Webster.

At least have a general idea of what I am going to write and how the parts interrelate.

A little rereading here.

(pause)

For this composition, however, I deliberately kept myself from thinking about the topic.

I wanted to do this exercise correctly.

I deliberately kept myself from thinking about the topic.

Consequently,

love these transitional words,

repeats the first word, adds a comma, continues by repeating the first word, then asks himself a question as a form of rehearsal. Next he goes back to reread sentence four and continues rehearsing until he finds his answer.

(re)₄ (Epunc) (re) (Rhq)
(R') (Rh->SW₁)

He assesses and continues writing.

(A) (SW₁)

Again he offers an explanation about his process, ostensibly to and about his audience.

(C_{aud})

The he reads what he's written of sentence six, goes back and reads sentence five with what he's written of six, which leads him to finish sentence six.

(R') (R'₆) (s) (SW₁)

He questions whether he's reached the end, laughs when he notices the kind of ending he produced and

(Q_{end}) (C)

begins talking (commenting) about the point that interested him earlier--why he writes only when he's forced to. These comments are evoked by what he wrote.

Consequently, whoops, comma there, consequently, what do I want to say here? For this composition, however, I deliberately kept myself from thinking about the topic. Consequently, ah, consequently what? Consequently ah, it's not . . . O.K. Consequently, the ideas are not flowing as they usually do.

O.K. Add to this the fact that I feel constrained to put something down on paper.

I don't want the class listening to silence--A John Cage composition

I feel constrained to put something down on paper. Consequently, the ideas are not flowing as they usually do. Add to this (rereading five and six) and one can easily imagine why this particular moment is my most anxious as a writer.

Is that a conclusion? (laugh)
That was my topic sentence and here I am saying it again.

Right now I'm really interested in how I usually write and how I can get over that only writing under pressure and only writing when I have to--for school, for classes. I really believe that writing can be enjoyable, writing can be, ah enlightening, illuminating for the person--something I like to, hope to foster on the many students that I should be put in a position to help write.

He acknowledges that he has digressed and brings himself back by questioning if he ought to read the paper over again. This question seems to serve a planning function, helping him determine what he wants to do next.

(Plq)

Yet he seems unable to leave the digression and he continues to comment on what interests him most-- his "normal" composing-- process, inserting an assessment which indicates that he is satisfied with what he's written.

(C) (A(+)) (C)

He announces his plan to reread and then does so, silently.

(Pl) (R¹-6)

Then an assessment based on time.

(A)

Now he begins a series of comments that reveal the relation he has created to his text.

(C)

Ah, getting a little off the topic. Do I want to reread this again?

You see, the thing is--'the thing is'-- Oh, God--if this were my composition-- this is my composition--but I am satisfied with the way it is--I'd read it over--in fact, I read over what I write as I go along to help me with what I want to write next but I very rarely go back. In other words if I have an idea that doesn't quite fit in with what I've written, I tend to change the new idea to conform with what I've already written rather than go back and make changes in what's already down on the paper even if I feel that the new idea is more what I want to say.

Ah, bear with me as I read this again (rereading)

Well, it's not a half an hour, it's not an hour.

At the present that's all that I want to write about the topic,

and I would like to go on thinking aloud about the writing process or my writing process but I don't know if that's what the assignment is and I'm not going to put anything more down on paper.

He exhibits difficulty exiting from the task.

(C)

Maybe I should stop here.

He assesses what he's done negatively. (He seems to have a notion concerning the length the session ought to be.)

(A(-))

I feel like I've failed--I haven't filled up one side of the tape.

He reports on his process for a moment and then continues to comment about himself in relation to the topic.

(MC) (C)

Turning the paper looking at it again-- I don't want to write any more about this--this anxious moment. I'm sure when I turn the tape recorder off and have a chance to think about what I've written, I may discover that in fact this wasn't my most anxious moment and that some time in the past, some exam, may have been indeed more anxious than the present one but having written what I wrote and having reread it,

He continues commenting.

(C)

Ah, I don't immediately see anything I'd like to change.

I'm sure I could work on this, but why? This is more or less a spontaneous composition. No one expects anything polished and the topic is one that doesn't really mean anything to me. In other words, if I went through and made corrections and tried to express this more finely, more precisely, more clearly, I wouldn't do it--I don't have the motivation--once again it's an artificial exercise.

Finally, he finds a way to exit from the process; he sums up what he's done, acknowledges there may be something he can learn from the process and leaves with one final negative assessment.

(C) (A(-))

Now enough of these ramblings. Be it ever so humble this is what I've written and what I thought as I wrote it. Perhaps when I listen to this tape again I'll get a better idea of what goes on when I actually have to sit down and write and why I write the way I do. This is so repetitive--God--huh--being.

Analysis of Vern's Composing Process

What can we learn from Vern's composing aloud tape and his written product? Once we construct a composing style sheet, how can we use it to make discoveries about what he does during composing? At the end of Chapter III, I introduced three ways of analyzing the composing style sheets: doing simple counts, looking for patterns and building theories based on what we see. Here I will provide examples of the kinds of observations I have made from my analysis of the data on Vern. In the next chapter, I will present a theoretical perspective from which to view these observations.

Before proceeding, two points about the data need to be made:

1. When Vern was directed to "compose aloud," he took the direction to mean that he should not think about the topic at all before he sat down to write. This self-imposed restriction left him no recourse but to compose spontaneously, or, as he quotes James Britton, "to shape at the point of utterance." This strategy, he tells us, is in sharp contrast to his "normal" process, where he plans the composition in his head ahead of time and then writes.
2. Given the imposed topic and the time constraints (one evening to write), it is likely that what we have here is Vern's performance on a perfunctory task. It is possible that on a topic of his own choice with a longer time span allotted to composing, he might compose differently. Yet, given the constraints of the situation, what does Vern do?

Doing Simple Counts

The first way to make sense of the charts is to describe what has occurred throughout the session. This

can be done by moving along the timeline and noting the type and sequence of behaviors. I generally ask myself a number of questions and then write down my answers for the first level of description. The questions I ask include:

1. What is the total amount of time spent in the session?
2. How many words does the writer produce during this time?
3. How much time is spent before drafting, on drafting, and after drafting is concluded?
4. In the time prior to drafting, what occurs? How much time is spent on rehearsal? On reading the topic? On planning?
5. During drafting, does one sentence lead directly to the next or are there breaks between sentences?
6. What happens after sentences are written? Does the writer reread frequently?
7. How many pauses occur throughout the process? How long do they last?
8. How many assessments occur?
9. How many and what kinds of editing changes occur?
10. At what point does a concern for revision enter the process? What types of revisions does the writer make?
11. How is the writing episode concluded?

My answers to these questions based on my analysis of Vern's written product and his composing style sheet are as follows:

1. In total, Vern produces 140 words and spends 26 minutes composing aloud.

2. He spends 7 minutes preparing himself to write, reading the topic, rehearsing, talking about composing aloud and looking to find a way to begin.
3. He reads the topic 6 times before he begins writing his first sentence.
4. He repeats a key word in the topic 5 times before he begins.
5. His main strategy during rehearsal is to ask himself questions.
6. Once he finds a direction he is willing to follow, he plans briefly and begins writing his first sentence.
7. He spends 11 minutes drafting his essay, producing a total of six sentences.
8. In the midst of producing his first sentence, he assesses his work negatively and makes one revision.
9. Sentence 1 leads directly to sentence 2, with no intervening pause.
10. During sentence 2, he digresses to talk about his life as a writer.
11. After the digression in sentence 2, he rereads what he has written and finishes drafting the sentence.
12. Upon completing sentence 2, he rereads it, assesses it positively and moves directly to sentence 3.
13. During sentence 3, he spends 1 minute checking the spelling of one word.
14. Upon completing sentence 3, he rereads the entire sentence, then goes back and rereads sentences 1 through 3. After a short pause (12 seconds) he produces sentence 4.
15. He rereads sentence 4 before he begins drafting sentence 5.
16. In the midst of sentence 5, he edits for punctuation and then rehearses by asking himself another question.

17. He reads sentence 4 again before he finishes drafting sentence 5.
18. After assessing his work positively, he moves on to sentence 6. In the midst of sentence 6, he rereads what he has written of 6, then rereads sentences 5 and 6 together and then completes 6, bringing himself to the end of his written text.
19. He assesses his work 10 times. Four of his assessments are negative; six are somewhat non-committal, "it's OK."
20. He edits twice: for spelling (in sentence 3), and for punctuation (in sentence 5); he revises once: for word choice (in sentence 1).
21. He spends 8 minutes "exiting" from the process by planning to reread, rereading his text, speculating about ideas that come to him as a result of writing, assessing his work and deciding to stop.

Looking for Patterns

After describing the quantifiable aspects of the charts, it is possible to look for recurring patterns. It is important to point out that analyzing one chart on one writer will not provide us with a full understanding of that writer's composing process. Even a minimal understanding can only emerge after studying a number of charts based on a number of different writing episodes. However, analyzing one chart is good practice and will allow us here to note the consistencies that occur in Vern's composing process during one session. In order to do this, I ask myself three kinds of questions:

1. What seems to occur consistently in Vern's chart?
2. Based on these observations, how can I characterize him as a writer?

3. Is there anything unusual in this session that I should keep in mind as I work with him in other sessions?

Based on my observations of Vern's chart, I see the following characteristics:

1. He questions himself frequently while writing, particularly in the beginning of the process.
2. He comments frequently about the process.
3. He rereads frequently, either after a sentence is written or while he is in the midst of composing.

I am also struck by three events as I listen to his composing aloud tape.

1. Although twice he tells himself, "Just start-- just write something down," he does not begin until he finds what seems to him to be the "right" example.
2. After he has finished drafting, he returns to discuss the digression that emerged during the drafting of sentence 2. This digression intrigues him and he seems unwilling to set it aside.
3. He exhibits difficulty in exiting from the writing process, voicing vague dissatisfaction with the topic and his written response.

Can these observations lead to a characterization of Vern as a writer? Although I recognize that a firm understanding of the way he writes needs to be based on more than one session, I find that even one session provides me with a wealth of information. By repeatedly listening to his tape and asking myself, "What does all of this suggest?" I am led to the following conclusions:

First, Vern appears to be a fluent writer. While he has a difficult time getting started, once he does, he

produces 6 sentences in 11 minutes with few pauses between sentences.

Second, Vern appears to be a careful writer. In rehearsing approaches to the topic, he is not satisfied with any example that comes to mind; even on a teacher's pre-selected topic, he spends time "looking" for an appropriate response, for something that "feels" right. He knows implicitly when the examples he comes up with are not "right," and he continues to ask himself, "Why am I anxious writing? Right now, why would I be anxious?" seemingly unable to write until he finds something adequate.

Third, Vern consistently engages in two behaviors which seem to serve different functions: commenting and rereading. Comments appear to serve an explanatory purpose, letting his audience know what he is doing and, I suspect, they occur as a result of the composing aloud directions. Rereading, on the other hand, appears to serve him: he seems to be assessing what he has already created in order to help him decide what he wants to create next. This, I suspect, is a much more common and integrated feature of his composing process, one I would look for in other sessions.

Fourth, one rather interesting incident occurs. In the midst of composing his second sentence, he writes, "Usually when I am forced to write . . ." The words, "forced to write" seem to jump out at him from the page.

He stops drafting and begins to talk about an idea that intrigues him: he only writes when he is forced to. This idea never enters his writing. But he returns to it upon completing his written product and seems unable to put it aside. The digression appears to be more compelling to him than his written text, and, in fact, he is vaguely dissatisfied with his text. Such an incident leads me to wonder: Does Vern generally avoid "new" ideas that occur as a result of writing? Does he generally force his ideas into a preconceived notion of the text he is in the process of creating? Does he ever allow ideas that emerge in the midst of writing to lead him to recast or reshape what has come before?

These questions emerge as a result of analyzing one session. They can only be answered by observing what Vern does in other sessions on other topics. In the course he was taking, we had such a situation. Vern did produce other writing, and at the conclusion of the course, we asked him to write a paper characterizing himself as a writer. What follows is an excerpt from this paper:

My revision process, as revealed to me by the tape recorder, was labored and painful. Normally, I do not revise what I have written. What I produce is usually rather coherent and more or less correct as I put it down. I am so glad to have come to the end of it that I can't bring myself to change anything since I know from past experience that it will pass muster without revision. Consequently, when forced to revise, I make some very minor cosmetic changes, but nothing that would require reworking to any great extent.

After reflecting on my writing and revision process, I can see that I have a deficiency: I edit for correctness before I commit a sentence to writing. Although I have developed strategies for editing that produce correct and fairly coherent writing, I suffer from a loss of contact with the sense that underlies writing. I apply filters for correctness and logic very early in the composing process; what I produce, therefore, is a rather impersonal and objective prose which has very little to do with my own experiencing.

Vern learned about his composing process by making tapes and studying what occurred on them. He saw now quickly he cut himself off from discovery because he was able to write "correct" prose that would "pass muster without revision." He saw that once he had settled on a direction, he would not change it or recast it to fit a new, more compelling idea. He saw how constrained his writing process was and how consistently he cut himself off from "the sense that underlies writing."

These are only a few of the insights that can emerge as a result of this kind of research. In fact, once we arrive at a series of observations that are indicative of regularities or habitual patterns associated with composing, it is common for us to want to ask new questions that do not have strictly empirical answers. We may want to ask why these recurring patterns seem either to facilitate the development of the composing process or to inhibit it. We may want to know more about the "sense that underlies writing." In other words, we may want to ask the kinds of questions that lead us to theory, the subject of the next chapter.

Chapter V

BUILDING A THEORY OF THE COMPOSING PROCESS

If theory is removed from contact with empirical reality, it rapidly degenerates into sterile deductive exercises and abstract speculation. Holist theorizing should always proceed in intimate contact with particular cases, so that each theoretical step can be immediately checked against a range of cases. . . . For some holist scientists the primary interest is in using theory to enrich the understanding of the particular case, while for others the case is primarily an instrument for the development of theory, but both interests are always present.

P. Diesing
Patterns of Discovery in
the Social Sciences

After making detailed observations like those described in this manual, we may turn to broader questions: Where is this research leading and what does it tell us about the composing process?

Firm answers to these questions will only develop through many people's efforts to study the process and describe what they see. In this final chapter I would like to indicate some possible directions for such work and speculate about the nature of the findings to date.¹

One of the most interesting observations to emerge through research employing methods like the one described here is the recognition that certain patterns recur

¹Much of this chapter originally appeared as a journal article entitled, "Understanding Composing," College Composition and Communication, December 1980, 353-359.

throughout an individual's composing process. This observation has led a growing number of researchers to challenge the notion that writing follows the strictly linear sequence of planning, writing and revising. Based on the findings from their studies, researchers have proposed an alternative model: writing is a recursive process, and throughout its course writers return to substrands or subroutines which serve to keep the process moving forward.

Like any new idea, writing as a recursive process raises many new questions. For example, recursiveness in writing implies that there is a forward moving action that exists by virtue of a backward moving action. But why? To what do writers move back? What exactly is being repeated? What recurs? And if we find meaningful ways to address such questions, what are the implications for pedagogy? Have we moved closer to grasping some fundamental process in writing? And if so, can aspects of it be taught?

To answer these questions, we can begin with the tapes and style sheets available to us. The descriptions that follow are based on my own observations of the composing processes of many types of writers including college students, graduate students and English teachers like Vern.

Writing does appear to be recursive, yet the parts that recur may vary from writer to writer or from topic to topic. Furthermore, some recursive elements are easy to

spot while others are not. Among the regularities I have noted thus far are these:

1. The most visible recurring feature or backward movement involves rereading little bits of discourse. Few writers I have seen write for long periods of time without returning briefly to what is already down on the page.

For some writers, rereading occurs after every few phrases; for others, like Vern, after every sentence; more frequently, it occurs after a "chunk" of information has been written. Thus the unit that is reread is not necessarily a syntactic one, but rather a semantic one as defined by the writer.

Consequently, the most visible backward movement is to the words on the page. After a few words, phrases, or sentences are down on the page, writers return to reread them.

2. The second recurring feature is some key word or item called up by the topic. Writers consistently return to their notion of the topic throughout the process of writing. Particularly when they are stuck, writers seem to use the topic or a key word in it as a way to get going again. Thus many times on the charts, it is possible to see writers "going back," rereading the topic they were given, changing it to suit what they have been writing or changing what they have written to suit their notion of the topic.

Thus the second backward movement is to the topic.

3. There is also a third backward movement in writing, one that is not so easy to document. Many writers seem to move back or refer repeatedly to something that does not appear to observers or even to the writers themselves as anything definite or clear. They seem to look within themselves, to go back to some inner datum to which they have access but which, precisely because it has not yet been written, does not have words at the moment they refer to it.

While it may at first appear difficult to speak or write clearly about such an undefinable matter, it is possible. Eugene Gendlin, a philosopher at the University of Chicago, has developed a method for studying and referring to the not-yet-defined aspects of experience that come into play in creative processes. Gendlin has written extensively about the fact that in addition to our ideas, thoughts, associations, moods, and readily identifiable feelings, there is also a sense that surrounds any experience. This sense can be felt directly and bodily, although it may not be readily reduceable to any terms or symbols that come immediately to mind.

It is to just such a felt sense of what they want to say that writers seem repeatedly to refer. In Gendlin's words, this felt sense is:

the soft underocally of thought . . . a kind of bodily awareness that . . . can be used as a tool . . . a bodily awareness that . . . encompasses everything you

feel and know about a given subject at a given time. . . . It is felt in the body, yet it has meanings. It is body and mind before they are split apart.

This felt sense is what is always there, within us. It is unifying, and yet, when we bring words to it, it can break apart, shift, unravel and become something else. Gendlin has spent many years showing people how to work with their capacity to sense in this way. Here I am making connections between his descriptions of inner process and what I have seen happen as people write.

When writers are given a topic, the topic calls forth images, words, and ideas, but also vague or fuzzy feelings that are anchored in the writer's body. What is elicited, then, is not solely the product of a mind but of a mind alive in a living, sensing body.

When writers pause, when they go back and repeat key words, what they seem to be doing is waiting, paying attention to what is still vague and unclear. They are looking to the felt experience, and waiting for an image, a word or a phrase to emerge that captures the sense they embody.

Usually, when they make the decision to write, it is after they have a dawning awareness that something has clicked, that they have enough of a sense that if they begin with a few words heading in a certain direction, words will continue to come which will allow them to flesh out this sense further.

The process of using what is sensed directly about a topic is a natural one. Many writers do it without any conscious awareness that that is what they are doing. For example, it can be seen in Vern's continued repetition of the words "anxious moments"; here he is using the words to allow his sense to deepen, continuing to ask himself, "Why would I be anxious writing?" and waiting until something in those words evokes enough of a sense in him that he feels ready to write. In the session cited here, he knows he has something after seven minutes; the question is, what tells him? What provides him with this knowledge?

Vern actually comes up with many possible answers, yet he discards them. What tells him that "this moment" is the one he should describe and that the others aren't right? He didn't calculate or deduce the answer. Rather, he asked himself the question openly and waited; finally when an idea came that matched the experience he was looking for, he was able to write. In the approach I am presenting, the recognition of what one needs to do or where one needs to go in writing first occurs as a sense one can feel. This is the internal criterion writers seem to use to guide them when they are rehearsing, drafting and revising.

The recursive move, then, that is hardest to document but is probably the most important to be aware of is the move to felt sense, to what is not yet in words but out of which words, images and concepts emerge.

Is There a Basic Composing Process?

The continuing presence of this felt sense, waiting for us to discover it and see where it leads, raises a number of questions.

- Is "felt sense" another term for what professional writers call their "inner voice" or their feeling of "inspiration"?
- Do skilled writers call on their capacity to sense more readily than unskilled writers?
- Rather than merely reducing the complex act of writing to neat formulation, can the term "felt sense" point us to an area of our experience from which we can evolve even richer and more accurate descriptions of composing?
- Can learning to develop this capacity to sense enhance our creativity and release us from stultifyingly repetitive patterns?

My study of these issues leads me to answer "yes" to all four questions. There seems to be a basic step in the process of composing that skilled writers rely on even when they are unaware of it and that less skilled writers can be taught. This process seems to rely on very careful attention to one's inner reflections and is often accompanied with bodily sensations.

When it is working, this process allows us to say or write what we've never said before, to create something new and fresh, and occasionally it provides us with the experience of "newness" or "freshness," even when "old words" or images are used.

The basic process begins with paying attention. If we are given a topic, it begins with taking the topic in and

attending to what it evokes in us. There is less "figuring out" an answer and more "waiting" to see what forms. Even without a predetermined topic, the process remains the same. We can ask ourselves, "What's on my mind?" or "Of all the things I know about, what would I most like to write about now?" and wait to see what comes. What we pay attention to is the part of our bodies where we experience ourselves directly. For many people, it's the area of their stomachs; for others, there is a more generalized response and they maintain a hovering attention to what they experience throughout their bodies.

Once a felt sense forms, we match words to it. As we begin to describe it, we get to see what is there for us. We get to see what we think, what we know. If we are writing about something that truly interests us, the sense deepens. We know that we are writing out of a "centered" place.

If the process is working, we begin to move along, sometimes quickly. Other times, we need to return to the beginning, to reread, to see if we captured what we meant to say. After rereading we might move on again, picking up speed. Perhaps, in rereading, we realize we've gone off the track, that what we've written doesn't quite "say it," and we need to reassess. Maybe the words are wrong and we need to change them. At times we may refer back to the topic, to call up the sense it initially

evoked to see where and how our words led us astray. In rereading we might even discover that the topic is "wrong," that the direction we discovered in writing is where we really want to go.

It is important here to clarify that the terms "right" and "wrong" are not necessarily meant to refer to grammatical structures or to correctness. What is "right" or "wrong" corresponds to our sense of our intention. We intend to write something, words come, and now we assess whether those words adequately capture our intended meaning. Thus, the first question we ask ourselves is "Are these words right for me?" "Do they capture what I'm trying to say?" "If not, what's missing?"

Once we ask "what's missing?" we need once again to wait, to let a sense of what is missing form, and then to write out of that sense.

I have labeled this process of attending, of calling up a felt sense, and of writing out of that place, the process of retrospective structuring. It is retrospective in that it begins with what is already there, inchoately, and brings whatever is there forward by using language in structured form.

It seems as though a felt sense has within it many possible structures or forms. As we shape what we intend to say, we are further structuring our sense while correspondingly shaping our piece of writing.

It is also important to note that what is there implicitly, without words, is not equivalent to what finally emerges. In the process of writing, we begin with what is inchoate and end with something that is tangible. In order to do so, we both discover and construct what we mean. Yet the term "discovery" ought not lead us to think that meaning exists fully formed inside of us and that all we need do is dig deep enough to release it. In writing, meaning cannot be discovered the way we discover an object on an archeological dig. In writing, meaning is constructed. It involves us in a process of coming-into-being. Once we have worked at shaping, through language, what is there inchoately, we can look at what we have written to see if it adequately captures what we intended. Often at this moment discovery occurs. We see something new in our writing that comes upon us as a surprise. We see in our words a further structuring of the sense we began with and we recognize that in those words we have discovered something new about ourselves and our topic. Thus when we are successful at this process, we end up with a product that teaches us something, that clarifies what we know (or what we knew at one point only implicitly), and that lifts out or explicates or enlarges our experience. This is the way writing leads to discovery.

All the writers I have observed, skilled and unskilled alike, appear to engage in the process I call retrospective

structuring. Yet the degree to which they do so varies and seems, in fact, to depend upon the model of the writing process that they have internalized. Those who realize that writing can be a recursive process have an easier time with waiting, looking, and discovering. Those who subscribe to the linear model find themselves easily frustrated when what they write does not immediately correspond to what they planned or when what they produce leaves them with little sense of accomplishment. Since they have relied on a formulaic approach, they often produce writing that is formulaic as well, thereby cutting themselves off from the possibility of discovering something new.

It is in this context that we can appreciate Vern's insight concerning his writing process: he quickly cuts himself off from the "sense that underlies writing." In the session described in Chapter IV, Vern enters the writing process openly, in a frame of mind in which he "waits" to see what will come. However, once he decides on a direction, he becomes locked into it. He does not allow a compelling idea (which emerges during the drafting of sentence 2) to enter his writing nor does he revise his original plan in light of this new idea. Although he knows to recite the principle that writing can be a process of discovery, in practice he does not allow such discoveries to inform his work. Near the end of the composing tape, we

see evidence of his dissatisfaction with the process both in his negative assessments and in his uneasiness about ending. It is possible to view this dissatisfaction not so much as a result of his not producing "correct and coherent" prose (for clearly he does that) but more as a result of his feeling little sense of accomplishment with the formulaic piece of writing he has produced.

Such a result seems linked to another feature of the composing process, to what I call projective structuring, or the ability to craft what one intends to say so that it is intelligible to others.

A number of concerns arise in regard to projective structuring; I will mention only a few that have been raised for me as I have watched different writers at work.

1. Although projective structuring is only one important part of the composing process, many writers act as if it were the whole process. These writers focus on what they think others want them to write rather than looking to see what it is they want to write. Like Vern, they often ignore their felt sense and the ideas that emerge from it, and as a result they do not establish a living connection between themselves and their topic.

2. Many writers reduce projective structuring to a series of rules or criteria for evaluating finished discourse. These writers ask, "Is what I'm writing correct?"

and "Does it conform to the rules I've been taught?" While these concerns are important, they often overshadow all others and lock the writer in the position of writing solely or primarily for the approval of readers.

Projective structuring, as I see it, involves much more than polishing one's writing for a strict audience and maintaining a narrow focus on correctness. It is true that to handle this part of the process well, writers need to know certain grammatical rules and evaluative criteria, but they also need to know how to call up a sense of their reader's needs and expectations.

For projective structuring to function fully, writers need to draw on their capacity to move away from their own words, to decenter from the page, and to project themselves into the role of the readers. In other words, projective structuring asks writers to attempt to become readers and to imagine what someone other than themselves will need before the writer's particular piece of writing can become intelligible and compelling. To do so, writers must have the experience of being readers. They cannot call up a sense of a reader unless they themselves have experienced what it means to be lost in a piece of writing or to be excited by it. When writers do not have such experiences, it is easy for them to accept that readers merely require correctness.

In the theory I am proposing, retrospective and projective structuring refer to two parts of a basic composing process. Together they form the alternating mental postures writers seem to assume as they move through the act of composing. The former relies on the ability to go inside, to attend to what is there, from that attending to place words upon a page, and then to assess if those words adequately capture one's meaning. The latter relies on the ability to assess how the words on that page will affect someone other than the writer, the reader. It appears that we rarely do one without the other entering in; in fact, again in these postures we can see the shuttling back-and-forth movements of the composing process, the move from sense to words and from words to sense, from inner experience to outer judgment and from judgment back to experience.

These notions have rich implications for teaching. They suggest that we can work not only with what writers say or write but also with the specific things they do when writing. The direction is toward a pedagogy that takes the writer's experiencing into account, a direction I have begun to explore elsewhere (Perl and Egendorf, 1979) and that parallels recent work by others in the field (Emig, 1981; Moffett, 1981; Murray, 1980).

The point, however, is not simply to present two new theoretical constructs. While these notions have helped

me refine my understanding and teaching of writing, involvement in research has taught me that there are many other ways to formulate what writers do. What is important here is the demonstration that careful scrutiny of writers at work can lead us to generate useful theoretical constructs. Often in research the tendency is to test hypotheses suggested by a favorite theory. In contrast, the approach outlined here provides a way to place the writers' experiences first and to generate theory from "intimate contact with particular cases." This allows the teacher or researcher to approach the data as openly as possible, waiting to see what directions or patterns they suggest. By proceeding in this way, we remain involved in a creative process ourselves, discovering what writers do. We also conduct our research on the model of our best teaching in which writers remain the central focus.

REFERENCES

- Bridwell, L. Revising strategies in twelfth grade students' transactional writing. Research in the Teaching of English, 1980, 14, 197-222.
- Cooper, C., & Odell, L. Research on composing: Points of departure. Urbana, Ill.: National Council of Teachers of English, 1978.
- Diesing, P. Patterns of discovery in the social sciences. Chicago: Aldine-Atherton, 1971.
- Emig, J. The composing processes of twelfth graders. Urbana, Ill.: National Council of Teachers of English, 1971. (Ed.D. Dissertation, Harvard University, 1969).
- Emig, J. Non-magical thinking: Presenting writing developmentally in schools. In C. Frederiksen, M. Whiteman & J. Dominic (Eds.), Writing: The nature, development & teaching of written communication (Vol. 2). Hillsdale, N.J.: Lawrence Erlbaum Associates, 1981.
- Florio, S. The problem of dead letters: Social perspectives on the teaching of writing. East Lansing, Mi.: Michigan State University, 1978. (Research Report #34)
- Flower, L., & Hayes, J. Writer-based prose: A cognitive basis for problems in writing. College English, 1979, 41, 19-37.
- Flower, L. & Hayes, J. A cognitive process theory of writing. Pittsburgh, Pa.: Carnegie Mellon University, 1980.
- Goodman, K. (Ed.). Miscue analysis: Applications to reading instruction. Urbana, Ill.: National Council of Teachers of English, 1973.
- Goodman, Y. & Burke, C. Reading miscue inventory. New York: Macmillan, 1972.
- Graves, D. Children's writing: Research directions and hypotheses based upon an examination of the writing process of seven year old children. Unpublished doctoral dissertation, State University of New York at Buffalo, 1973.

- Graves, D. A two-year case study observing the development of primary children's composing, spelling & motor behaviors during the writing process. Durham, N.H.: Writing Process Laboratory, University of New Hampshire, 1979.
- Matsubashi, A. Pausing & planning: The tempo of written discourse production. Unpublished paper, Chicago, Ill.: University of Illinois, 1980.
- Moffett, J. Coming on center: English education in evolution. Montclair, N.J.: Boynton-Cook, 1981.
- Murray, D. Writing as process: How writing finds its own meaning. In T. Donovan & B. McClelland (Eds.), Eight approaches to teaching composition. Urbana, Ill.: National Council of Teachers of English, 1980.
- Odell, L., & Goswami, D. Writing in a non-academic setting. Unpublished paper, Albany, N.Y.: State University at Albany, 1981.
- Peitzman, F. The composing processes of three college freshmen: Focus on revision. Unpublished doctoral dissertation, New York University, 1981.
- Perl, S. Five writers writing: The composing processes of unskilled college writers. Unpublished doctoral dissertation, New York University, 1978.
- Perl, S. Understanding composing. College Composition & Communication, 1980, 31, 363-369.
- Perl, S. How teachers teach the writing process: Research plan for Shoreham-Wading River school district. Bronx, N.Y.: NIE Research Proposal, 1981.
- Perl, S., & Egendorf, A. The process of creative discovery: Theory, research & implications for teaching. In D. McQuade (Ed.), Linguistics, stylistics and the teaching of composition. Akron, Ohio: L & S Books, 1979.
- Pianko, S. A description of the composing processes of college freshman writers. Research in the Teaching of English, 1979, 13, 5-22.
- Rose, M. The cognitive dimension of writer's block: An examination of university students. Unpublished doctoral dissertation, University of California, Los Angeles, 1981.

Sommers, N. Revision in the composing process: A case study of college freshmen & experienced adult writers. Unpublished doctoral dissertation, Boston University, 1978.

Vygotsky, L. [Mind in society] (M. Cole, V. John-Steiner, S. Scribner & E. Souberman, Eds. & trans.). Cambridge, Mass.: Harvard University Press, 1978.

Wilson Nelson, M. Teacher-writers: How they teach the writing process. Unpublished paper, Athens, Ga.: University of Georgia, 1980.

Woods-Elliott, C. Students, teachers & writing: An ethnography of interactions in literacy. Unpublished doctoral dissertation, University of Pa., 1981.