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Source: *Research in the Teaching of English*, Vol. 13, No. 4 (Dec., 1979), pp. 317-336

Published by: National Council of Teachers of English

Stable URL: <https://www.jstor.org/stable/40170774>

Accessed: 05-01-2019 19:59 UTC

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The Composing Processes of Unskilled College Writers

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This paper presents the pertinent findings from a study of the composing processes of five unskilled college writers (Perl, 1978). The first part summarizes the goals of the original study, the kinds of data collected, and the research methods employed. The second part is a synopsis of the study of Tony, one of the original five case studies. The third part presents a condensed version of the findings on the composing process and discusses these findings in light of current pedagogical practice and research design.

GOALS OF THE STUDY

This research addressed three major questions: (1) How do unskilled writers write? (2) Can their writing processes be analyzed in a systematic, replicable manner? and (3) What does an increased understanding of their processes suggest about the nature of composing in general and the manner in which writing is taught in the schools?

In recent years, interest in the composing process has grown (Britton, 1975; Burton, 1973; Cooper, 1974; Emig, 1967, 1971). In 1963, Braddock, Lloyd-Jones, and Schoer, writing on the state of research in written composition, included the need for "direct observation" and case study procedures in their suggestions for future research (pp. 24, 31-32). In a section entitled "Unexplored Territory," they listed basic unanswered questions such as, "What is involved in the act of writing?" and "Of what does skill in writing actually consist?" (p. 51). Fifteen years later, Cooper and Odell (1978) edited a volume similar in scope, only this one was devoted entirely to issues and questions related to research on composing. This volume in particular signals a shift in emphasis in writing research. Alongside the traditional, large scale experimental studies, there is now widespread recognition of the need for works of a more modest, probing nature, works that attempt to elucidate basic processes. The studies on composing that have been completed to date are precisely of this kind; they are small-scale studies, based on the systematic observation of writers engaged in the process of writing (Emig, 1971; Graves, 1973; Mischel, 1974; Pianko 1977; Stallard, 1974).

For all of its promise, this body of research has yet to produce work that would insure wide recognition for the value of process studies of composing. One limitation of work done to date is methodological. Narrative descriptions of composing processes do not provide sufficiently graphic evidence for the perception of underlying regularities and patterns. Without such evidence, it is difficult to generate well-defined hypotheses and to move from exploratory research to more

controlled experimental studies. A second limitation pertains to the subjects studied. To date no examination of composing processes has dealt primarily with unskilled writers. As long as "average" or skilled writers are the focus, it remains unclear as to how process research will provide teachers with a firmer understanding of the needs of students with serious writing problems.

The present study is intended to carry process research forward by addressing both of these limitations. One prominent feature of the research design involves the development and use of a meaningful and replicable method for rendering the composing process as a sequence of observable and scorable behaviors. A second aspect of the design is the focus on students whose writing problems baffle the teachers charged with their education.

DESIGN OF THE STUDY

This study took place during the 1975-76 fall semester at Eugenio Maria de Hostos Community College of the City University of New York. Students were selected for the study on the basis of two criteria: writing samples that qualified them as unskilled writers and willingness to participate. Each student met with the researcher for five 90-minute sessions (see Table 1). Four sessions were devoted to writing with the students directed to compose aloud, to externalize their thinking processes as much as possible, during each session. In one additional session, a writing profile on the students' perceptions and memories of writing was developed through the use of an open-ended interview. All of the sessions took place in a soundproof room in the college library. Throughout each session, the researcher assumed a noninterfering role.

The topics for writing were developed in an introductory social science course in which the five students were enrolled. The "content" material they were studying was divided into two modes: extensive, in which the writer was directed to approach the material in an objective, impersonal fashion, and reflexive, in which the writer was directed to approach similar material in an affective, personalized fashion. Contrary to Emig's (1971) definitions, in this study it was assumed that the teacher was always the audience.

DATA ANALYSIS

Three kinds of data were collected in this study: the students' written products, their composing tapes, and their responses to the interview. Each of these was studied carefully and then discussed in detail in each of the five case study presentations. Due to limitations of space, this paper will review only two of the data sets generated in the study.

Coding the Composing Process

One of the goals of this research was to devise a tool for describing the movements that occur during composing. In the past such descriptions have taken the form of narratives which detail, with relative precision and insight, observable composing behaviors; however, these narratives provide no way of ascertaining the frequency, relative importance, and place of each behavior within an individual's composing process. As such, they are cumbersome and difficult to replicate. Furthermore, lengthy, idiosyncratic narratives run the risk of leaving

TABLE I
Design of the Study

	Session 1 (S1)	Session 2 (S2)	Session 3 (S3)	Session 4 (S4)	Session 5 (S5)
Mode	Extensive	Reflexive		Extensive	Reflexive
Topic	Society & Culture	Society & Culture	Interview: Writing Profile	Capitalism	Capitalism
Directions	Students told to compose aloud; no other directions given	Students told to compose aloud; no other directions given		Students told to compose aloud; also directed to talk out ideas before writing	Students told to compose aloud; also directed to talk out ideas before writing

underlying patterns and regularities obscure. In contrast, the method created in this research provides a means of viewing the composing process that is:

- (1) Standardized—it introduces a coding system for observing the composing process that can be replicated;
- (2) Categorical—it labels specific, observable behaviors so that types of composing movements are revealed;
- (3) Concise—it presents the entire sequence of composing movements on one or two pages;
- (4) Structural—it provides a way of determining how parts of the process relate to the whole; and
- (5) Diachronic—it presents the sequences of movements that occur during composing as they unfold in time.

In total, the method allows the researcher to apprehend a process as it unfolds. It lays out the movements or behavior sequences in such a way that if patterns within a student's process or among a group of students exist, they become apparent.

The Code The method consists of coding each composing behavior exhibited by the student and charting each behavior on a continuum. During this study, the coding occurred after the student had finished composing and was done by working from the student's written product and the audiotape of the session. It was possible to do this since the tape captured both what the student was saying and the literal sound of the pen moving across the page. As a result, it was possible to determine when students were talking, when they were writing, when both occurred simultaneously, and when neither occurred.

The major categorical divisions in this coding system are talking, writing, and reading; however, it was clear that there are various kinds of talk and various kinds of writing and reading operations, and that a coding system would need to distinguish among these various types. In this study the following operations were distinguished:

- (1) General planning [PL]—organizing one's thoughts for writing, discussing how one will proceed.
- (2) Local planning [PLL]—talking out what idea will come next.
- (3) Global planning [PLG]—discussing changes in drafts.
- (4) Commenting [C]—sighing, making a comment or judgment about the topic.
- (5) Interpreting [I]—rephrasing the topic to get a "handle" on it.
- (6) Assessing [A(+); A(-)]—making a judgment about one's writing; may be positive or negative.
- (7) Questioning [Q]—asking a question.
- (8) Talking leading to writing [T→W]—voicing ideas on the topic, tentatively finding one's way, but not necessarily being committed to or using all one is saying.
- (9) Talking and writing at the same time [TW]—composing aloud in such a way that what one is saying is actually being written at the same time.
- (10) Repeating [re]—repeating written or unwritten phrases a number of times.
- (11) Reading related to the topic:
 - (a) Reading the directions [R_D]

- (b) Reading the question [R_q]
- (c) Reading the statement [R_s]
- (12) Reading related to one's own written product:
 - (a) Reading one sentence or a few words [R^a]
 - (b) Reading a number of sentences together [R^{a-b}]
 - (c) Reading the entire draft through [R^{w1}]
- (13) Writing silently [W]
- (14) Writing aloud [TW]
- (15) Editing [E]
 - (a) adding syntactic markers, words, phrases, or clauses [E_{add}]
 - (b) deleting syntactic markers, words, phrases, or clauses [E_{del}]
 - (c) indicating concern for a grammatical rule [E_{gr}]
 - (d) adding, deleting, or considering the use of punctuation [E_{punc}]
 - (e) considering or changing spelling [E_{sp}]
 - (f) changing the sentence structure through embedding, coordination or subordination [E_{ss}]
 - (g) indicating concern for appropriate vocabulary (word choice) [E_{wc}]
 - (h) considering or changing verb form [E_{vc}]
- (16) Periods of silence [s]

By taking specific observable behaviors that occur during composing and supplying labels for them, this system thus far provides a way of analyzing the process that is categorical and capable of replication. In order to view the frequency and the duration of composing behaviors and the relation between one particular behavior and the whole process, these behaviors need to be depicted graphically to show their duration and sequence.

The Continuum The second component of this system is the construction of a time line and a numbering system. In this study, blank charts with lines like the following were designed:

----- 10 ----- 20 ----- 30 ----- 40 ----- 50 ----- 60 ----- 70 -----

A ten-digit interval corresponds to one minute and is keyed to a counter on a tape recorder. By listening to the tape and watching the counter, it is possible to determine the nature and duration of each operation. As each behavior is heard on the tape, it is coded and then noted on the chart with the counter used as a time marker. For example, if a student during prewriting reads the directions and the question twice and then begins to plan exactly what she is going to say, all within the first minute, it would be coded like this:

Prewriting
 $\overbrace{RdRqRdRqPLL}$

 10

If at this point the student spends two minutes writing the first sentence, during which time she pauses, rereads the question, continues writing, and then edits for spelling before continuing on, it would be coded like this:

1
 $\overbrace{TW_1 /s /Rq \quad TW_1[Esp]TW_1}$

 20 ----- 30

At this point two types of brackets and numbering systems have appeared. The initial sublevel number linked with the TW code indicates which draft the student is working on. TW₁ indicates the writing of the first draft; TW₂ and TW₃ indicate the writing of the second and third drafts. Brackets such as [Esp] separate these operations from writing and indicate the amount of time the operation takes. The upper-level number above the horizontal bracket indicates which sentence in the written product is being written and the length of the bracket indicates the amount of time spent on the writing of each sentence. All horizontal brackets refer to sentences, and from the charts it is possible to see when sentences are grouped together and written in a chunk (adjacent brackets) or when each sentence is produced in isolation (gaps between brackets). (See Appendix for sample chart.)

The charts can be read by moving along the time line, noting which behaviors occur and in what sequence. Three types of comments are also included in the charts. In bold-face type, the beginning and end of each draft are indicated; in lighter type-face, comments on the actual composing movements are provided; and in the lightest type-face, specific statements made by students or specific words they found particularly troublesome are noted.

From the charts, the following information can be determined:

- (1) the amount of time spent during prewriting;
- (2) the strategies used during prewriting;
- (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 spent between sentences;
- (8) the behaviors that occur between sentences;
- (9) when editing occurs (during the writing of sentences, between sentences, in the time between drafts);
- (10) the frequency of editing behavior;
- (11) the nature of the editing operations; and
- (12) where and in what frequency pauses or periods of silence occur in the process.

The charts, or *composing style sheets* as they are called, do not explain what students wrote but rather *how* they wrote. They indicate, on one page, the sequences of behavior that occur 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 mode of discourse.

It should be noted that although the coding system is presented before the analysis of the data, it was derived from the data and then used as the basis for generalizing about the patterns and behavioral sequences found within each student's process. These individual patterns were reported in each of the five case studies. Thus, initially, a style sheet was constructed for each writing session on each student. When there were four style sheets for each student, it was possible to determine if composing patterns existed among the group. The summary of results reported here is based on the patterns revealed by these charts.

Analyzing Miscues in the Writing Process Miscue analysis is based on Goodman's model of the reading process. Created in 1962, it has become a widespread tool for studying what students do when they read and is based on the premise that reading is a psycholinguistic process which "uses language, in written form, to get to the meaning" (Goodman, 1973, p. 4). Miscue analysis "involves its user in examining the observed behavior of oral readers as an interaction between language and thought, as a process of constructing meaning from a graphic display" (Goodman, 1973, p. 4). Methodologically, the observer analyzes the mismatch that occurs when readers make responses during oral reading that differ from the text. This mismatch or miscueing is then analyzed from Goodman's "meaning-getting" model, based on the assumption that "the reader's preoccupation with meaning will show in his miscues, because they will tend to result in language that still makes sense" (Goodman, 1973, p. 9).

In the present study, miscue analysis was adapted from Goodman's model in order to provide insight into the writing process. Since students composed aloud, two types of oral behaviors were available for study: encoding processes or what students spoke while they were writing and decoding processes or what students "read"¹ after they had finished writing. When a discrepancy existed between encoding or decoding and what was on the paper, it was referred to as miscue.

For encoding, the miscue analysis was carried out in the following manner:

- (1) The students' written products were typed, preserving the original style and spelling.
- (2) What students said while composing aloud was checked against the written products; discrepancies were noted on the paper wherever they occurred.
- (3) The discrepancies were categorized and counted.

Three miscue categories were derived for encoding:

- (1) Speaking complete ideas but omitting certain words during writing.
- (2) Pronouncing words with plural markers or other suffixes completely but omitting these endings during writing.
- (3) Pronouncing the desired word but writing a homonym, an approximation of the word or a personal abbreviation of the word on paper.

For decoding, similar procedures were used, this time comparing the words of the written product with what the student "read" orally. When a discrepancy occurred, it was noted. The discrepancies were then categorized and counted.

Four miscue categories were derived for decoding:

- (1) "Reading in" missing words or word endings;
- (2) Deleting words or word endings;
- (3) "Reading" the desired word rather than the word on the page;
- (4) "Reading" abbreviations and misspellings as though they were written correctly.

A brief summary of the results of this analysis appears in the findings.

¹The word "read" is used in a particular manner here. In the traditional sense, reading refers to accurate decoding of written symbols. Here it refers to students' verbalizing words or endings even when the symbols for those words are missing or only minimally present. Whenever the term "reading" is used in this way, it will be in quotation marks.

**SYNOPSIS
OF A CASE
STUDY**

Tony was a 20-year-old ex-Marine born and raised in the Bronx, New York. Like many Puerto Ricans born in the United States, he was able to speak Spanish, but he considered English his native tongue. In the eleventh grade, Tony left high school, returning three years later to take the New York State high school equivalency exam. As a freshman in college, he was also working part-time to support a child and a wife from whom he was separated.

Behaviors The composing style sheets provide an overview of the observable behaviors exhibited by Tony during the composing process. (See Appendix for samples of Tony's writing and the accompanying composing style sheet.) The most salient feature of Tony's composing process was its recursiveness. Tony rarely produced a sentence without stopping to reread either a part or the whole. This repetition set up a particular kind of composing rhythm, one that was cumulative in nature and that set ideas in motion by its very repetitiveness. Thus, as can be seen from any of the style sheets, talking led to writing which led to reading which led to planning which again led to writing.

The style sheets indicated a difference in the composing rhythms exhibited in the extensive and reflexive modes. On the extensive topics there was not only more repetition within each sentence but also many more pauses and repetitions between sentences, with intervals often lasting as long as two minutes. On the reflexive topics, sentences were often written in groups, with fewer rereadings and only minimal time intervals separating the creation of one sentence from another.

Editing occurred consistently in all sessions. From the moment Tony began writing, he indicated a concern for correct form that actually inhibited the development of ideas. In none of the writing sessions did he ever write more than two sentences before he began to edit. While editing fit into his overall recursive pattern, it simultaneously interrupted the composing rhythm he had just initiated.

During the intervals between drafts, Tony read his written work, assessed his writing, planned new phrasings, transitions or endings, read the directions and the question over, and edited once again.

Tony performed these operations in both the extensive and reflexive modes and was remarkably consistent in all of his composing operations. The style sheets attest both to this consistency and to the densely packed, tight quality of Tony's composing process—indeed, if the notations on these sheets were any indication at all, it was clear that Tony's composing process was so full that there was little room left for invention or change.

Fluency Table 2 provides a numerical analysis of Tony's writing performance. Here it is possible to compare not only the amount of time spent on the various composing operations but also the relative fluency. For Sessions 1 and 2 the data indicate that while Tony spent more time prewriting and writing in the extensive mode, he actually produced fewer words. For Sessions 4 and 5, a similar pattern can be detected. In the extensive mode, Tony again spent more time prewriting and produced fewer words. Although writing time was increased in the reflexive mode, the additional 20 minutes spent writing did not sufficiently account for an increase of 194 words. Rather, the

data indicate that Tony produced more words with less planning and generally in less time in the reflexive mode, suggesting that his greater fluency lay in this mode.

TABLE 2
Tony: Summary of Four Writing Sessions
(Time in Minutes)

	S1 TW ₁			S4 T→W		
	Drafts	Words	Time	Drafts	Words	Time
Extensive Mode			Prewriting: 7.8			Prewriting: 8.0
	W1	132	18.8	W1	182	29.0
	W2	170	51.0	W2	174	33.9
	Total	302	Total composing: 91.2*	Total	356	Total composing: 82.0*
	S2 TW ₁			S5 T→W		
	Drafts	Words	Time	Drafts	Words	Time
Reflexive Mode			Prewriting: 3.5			Prewriting: 5.7
	W1	165	14.5	W1	208	24.0
	W2	169	25.0	W2	190	38.3
	W3	178	24.2	W3	152	20.8
	Total	512	Total composing: 76.0*	Total	550	Total composing: 96.0*

* Total composing includes time spent on editing and rereading, as well as actual writing.

Strategies Tony exhibited a number of strategies that served him as a writer whether the mode was extensive or reflexive. Given any topic, the first operation he performed was to focus in and narrow down the topic. He did this by rephrasing the topic until either a word or an idea in the topic linked up with something in his own experience (an attitude, an opinion, an event). In this way he established a connection between the field of discourse and himself and at this point he felt ready to write.

Level of Language use Once writing, Tony employed a pattern of classifying or dividing the topic into manageable pieces and then using one or both of the divisions as the basis for narration. In the four writing sessions, his classifications were made on the basis of economic, racial, and political differences. However, all of his writing reflected a low level of generality. No formal principles were used to organize the narratives nor were the implications of ideas present in the essay developed.

In his writing, Tony was able to maintain the extensive/reflexive distinction. He recognized when he was being asked directly for an opinion and when he

was being asked to discuss concepts or ideas that were not directly linked to his experience. However, the more distance between the topic and himself, the more difficulty he experienced, and the more repetitive his process became. Conversely, when the topic was close to his own experience, the smoother and more fluent the process became. More writing was produced, pauses were fewer, and positive assessment occurred more often. However, Tony made more assumptions on the part of the audience in the reflexive mode. When writing about himself, Tony often did not stop to explain the context from which he was writing; rather, the reader's understanding of the context was taken for granted.

Editing Tony spent a great deal of his composing time editing.

However, most of this time was spent proofreading rather than changing, rephrasing, adding, or evaluating the substantive parts of the discourse. Of a total of 234 changes made in all of the sessions, only 24 were related to changes of content and included the following categories:

- (1) Elaborations of ideas through the use of specification and detail;
- (2) Additions of modals that shift the mood of a sentence;
- (3) Deletions that narrow the focus of a paper;
- (4) Clause reductions or embeddings that tighten the structure of a paper;
- (5) Vocabulary choices that reflect a sensitivity to language;
- (6) Reordering of elements in a narrative;
- (7) Strengthening transitions between paragraphs;
- (8) Pronoun changes that signal an increased sensitivity to audience.

The 210 changes in form included the following:

Additions	19	Verb changes	4
Deletions	44	Spelling	95
Word choice	13	Punctuation	35
		Unresolved problems	89

The area that Tony changed most often was spelling, although, even after completing three drafts of a paper, Tony still had many words misspelled.

Miscue Analysis Despite continual proofreading, Tony's completed drafts often retained a look of incompleteness. Words remained misspelled, syntax was uncorrected or overcorrected, suffixes, plural markers, and verb endings were missing, and often words or complete phrases were omitted.

The composing aloud behavior and the miscue analysis derived from it provide one of the first demonstrable ways of understanding how such seemingly incomplete texts can be considered "finished" by the student. (See Table 3 for a summary of Tony's miscues.) Tony consistently voiced complete sentences when composing aloud but only transcribed partial sentences. The same behavior occurred in relation to words with plural or marked endings. However, during rereading and even during editing, Tony supplied the missing endings, words, or phrases and did not seem to "see" what was missing from the text. Thus, when reading his paper, Tony "read in" the meaning he expected to be there which turned him into a reader of content rather than form. However, a difference can be observed between the extensive and reflexive modes, and in the area of correct-

ness Tony's greater strength lay in the reflexive mode. In this mode, not only were more words produced in less time (1,062 vs. 658), but fewer decoding mis-cues occurred (38 vs. 46), and fewer unresolved problems remained in the text (34 vs. 55).

TABLE 3
Tony—Miscue Analysis

ENCODING				
Speaking complete ideas but omitting certain words during writing	Pronouncing words with plural markers or other suffixes completely but omitting these endings during writing	Pronouncing the desired word but writing a homonym, an approximation of the word or a personal abbreviation of the word on paper	Total	
S1	1	4	11	16
S2	8	0	14	22
S4	4	0	16	20
S5	3	1	15	19
—	—	—	—	—
16	5	56	77	

DECODING				
Reading in missing words or word endings	Deleting words or word endings	Reading the desired word rather than the word on the page	Reading abbreviations and misspellings as though they were written correctly	Total
S1	10	1	15	27
S2	5	1	10	18
S4	3	3	13	19
S5	7	1	10	20
—	—	—	—	—
25	6	5	48	84

When Tony did choose to read for form, he was handicapped in another way. Through his years of schooling, Tony learned that there were sets of rules to be applied to one's writing, and he attempted to apply these rules of form to his prose. Often, though, the structures he produced were far more complicated than the simple set of proofreading rules he had at his disposal. He was therefore faced with applying the rule partially, discarding it, or attempting corrections through sound. None of these systems was completely helpful to Tony, and as often as a correction was made that improved the discourse, another was made that obscured it.

Summary Finally, when Tony completed the writing process, he refrained from commenting on or contemplating his total written product. When he initiated writing, he immediately established distance between himself as writer and his discourse. He knew his preliminary draft might have errors and might need revision. At the end of each session, the distance had

decreased if not entirely disappeared. Tony "read in" missing or omitted features, rarely perceived syntactic errors, and did not untangle overly embedded sentences. It was as if the semantic model in his head predominated, and the distance with which he entered the writing process had dissolved. Thus, even with his concern for revision and for correctness, even with the enormous amount of time he invested in rereading and repetition, Tony concluded the composing process with unresolved stylistic and syntactic problems. The conclusion here is not that Tony can't write, or that Tony doesn't know how to write, or that Tony needs to learn more rules: Tony is a writer with a highly consistent and deeply embedded recursive process. What he needs are teachers who can interpret that process for him, who can see through the tangles in the process just as he sees meaning beneath the tangles in his prose, and who can intervene in such a way that untangling his composing process leads him to create better prose.

SUMMARY OF THE FINDINGS

A major finding of this study is that, like Tony, all of the students studied displayed consistent composing processes; that is, the behavioral subsequences prewriting, writing, and editing appeared in sequential patterns that were recognizable across writing sessions and across students.

This consistency suggests a much greater internalization of process than has ever before been suspected. Since the written products of basic writers often look arbitrary, observers commonly assume that the students' approach is also arbitrary. However, just as Shaughnessy (1977) points out that there is "very little that is random . . . in what they have written" (p. 5), so, on close observation, very little appears random in *how* they write. The students observed had stable composing processes which they used whenever they were presented with a writing task. While this consistency argues against seeing these students as beginning writers, it ought not necessarily imply that they are proficient writers. Indeed, their lack of proficiency may be attributable to the way in which premature and rigid attempts to correct and edit their work truncate the flow of composing without substantially improving the form of what they have written. More detailed findings will be reviewed in the following subsections which treat the three major aspects of composing: prewriting, writing, and editing.

Prewriting

When not given specific prewriting instructions, the students in this study began writing within the first few minutes. The average time they spent on prewriting in sessions 1 and 2 was four minutes (see Table 4), and the planning strategies they used fell into three principal types:

- (1) Rephrasing the topic until a particular word or idea connected with the student's experience. The student then had "an event" in mind before writing began.
- (2) Turning the large conceptual issue in the topic (e.g., equality) into two manageable pieces for writing (e.g., rich vs. poor; black vs. white).
- (3) Initiating a string of associations to a word in the topic and then developing one or more of the associations during writing.

When students planned in any of these ways, they began to write with an articulated sense of where they wanted their discourse to go. However, fre-

TABLE 4
Overview of All Writing Sessions

	Prewriting time*					Total words					Editing changes		Unresolved problems	Miscues during reading
						Total composing time								
S1	S2	S4	S5		S1	S2	S4	S5	Content	Form				
Tony	7.8	3.5	8.0	5.7		302 91.2	512 76.0	356 82.0	550 96.0	24	210	89	84	
Dee	2.5	2.9	5.0	5.0		409 55.5	559 65.0	91 24.5	212 29.0	7	24	40	32	
Stan	3.5	4.3	14.8	14.7		419 62.0	553 73.1	365 73.0	303 68.0	13	49	45	55	
Lueller	2.0	1.5	4.0	13.0		518 90.8	588 96.8	315 93.0	363 77.8	2	167	143	147	
Beverly	5.5	7.0	32.0	20.0		519 79.0	536 80.3	348 97.4	776 120.0	21	100	55	30	

*Due to a change in the prewriting directions, only Sessions 1 and 2 are used to calculate the average time spent in prewriting.

quently students read the topic and directions a few times and indicated that they had "no idea" what to write. On these occasions, they began writing without any secure sense of where they were heading, acknowledging only that they would "figure it out" as they went along. Often their first sentence was a rephrasing of the question in the topic which, now that it was in their own handwriting and down on paper in front of them, seemed to enable them to plan what ought to come next. In these instances, writing led to planning which led to clarifying which led to more writing. This sequence of planning and writing, clarifying and discarding, was repeated frequently in all of the sessions, even when students began writing with a secure sense of direction.

Although one might be tempted to conclude that these students began writing prematurely and that planning precisely what they were going to write ought to have occurred before they put pen to paper, the data here suggest:

- (1) that certain strategies, such as creating an association to a key word, focusing in and narrowing down the topic, dichotomizing and classifying, can and do take place in a relatively brief span of time; and
- (2) that the developing and clarifying of ideas is facilitated once students translate some of those ideas into written form. In other words, seeing ideas on paper enables students to reflect upon, change and develop those ideas further.

Writing Careful study revealed that students wrote by shuttling from the sense of what they wanted to say forward to the words on the page and back from the words on the page to their intended meaning. This "back and forth" movement appeared to be a recursive feature: at one moment students were writing, moving their ideas and their discourse forward; at the next they were backtracking, rereading, and digesting what had been written.

Recursive movements appeared at many points during the writing process. Occasionally sentences were written in groups and then reread as a "piece" of discourse; at other times sentences and phrases were written alone, repeated until the writer was satisfied or worn down, or rehearsed until the act of rehearsal led to the creation of a new sentence. In the midst of writing, editing occurred as students considered the surface features of language. Often planning of a global nature took place: in the midst of producing a first draft, students stopped and began planning how the second draft would differ from the first. Often in the midst of writing, students stopped and referred to the topic in order to check if they had remained faithful to the original intent, and occasionally, though infrequently, they identified a sentence or a phrase that seemed, to them, to produce a satisfactory ending. In all these behaviors, they were shuttling back and forth, projecting what would come next and doubling back to be sure of the ground they had covered.

A number of conclusions can be drawn from the observations of these students composing and from the comments they made: although they produced inadequate or flawed products, they nevertheless seemed to understand and perform some of the crucial operations involved in composing with skill. While it cannot be stated with certainty that the patterns they displayed are shared by other writers, some of the operations they performed appear sufficiently sound

to serve as prototypes for constructing two major hypotheses on the nature of their composing processes. Whether the following hypotheses are borne out in studies of different types of writers remains an open question:

1. Composing does not occur in a straightforward, linear fashion. The process is one of accumulating discrete bits down on the paper and then working from those bits to reflect upon, structure, and then further develop what one means to say. It can be thought of as a kind of "retrospective structuring"; movement forward occurs only after one has reached back, which in turn occurs only after one has some sense of where one wants to go. Both aspects, the reaching back and the sensing forward, have a clarifying effect.

2. Composing always involves some measure of both construction and discovery. Writers construct their discourse inasmuch as they begin with a sense of what they want to write. This sense, as long as it remains implicit, is not equivalent to the explicit form it gives rise to. Thus, a process of constructing meaning is required. Rereading or backward movements become a way of assessing whether or not the words on the page adequately capture the original sense intended. Constructing simultaneously affords discovery. Writers know more fully what they mean only after having written it. In this way the explicit written form serves as a window on the implicit sense with which one began.

Editing Editing played a major role in the composing processes of the students in this study (see Table 5). Soon after students began writing their first drafts, they began to edit, and they continued to do so during the intervals between drafts, during the writing of their second drafts and during the final reading of papers.

TABLE 5
Editing Changes

	Tony	Dee	Stan	Lueller	Beverly	Totals
Total number of words produced	1720	1271	1640	1754	2179	8564
Total form	210	24	49	167	100	550
Additions	19	2	10	21	11	63
Deletions	44	9	18	41	38	150
Word choice	13	4	1	27	6	51
Verb changes	4	1	2	7	12	26
Spelling	95	4	13	60	19	191
Punctuation	35	4	5	11	14	69
Total content	24	7	13	2	21	67

While editing, the students were concerned with a variety of items: the lexicon (i.e., spelling, word choice, and the context of words); the syntax (i.e., grammar, punctuation, and sentence structure); and the discourse as a whole (i.e., organization, coherence, and audience). However, despite the students' considered attempts to proofread their work, serious syntactic and stylistic problems

remained in their finished drafts. The persistence of these errors may, in part, be understood by looking briefly at some of the problems that arose for these students during editing:

Rule confusion (1) All of the students observed asked themselves, "Is this sentence [or feature] correct?" but the simple set of editing rules at their disposal was often inappropriate for the types of complicated structures they produced. As a result, they misapplied what they knew and either created a hypercorrection or impaired the meaning they had originally intended to clarify; (2) The students observed attempted to write with terms they heard in lectures or class discussions, but since they were not yet familiar with the syntactic or semantic constraints one word placed upon another, their experiments with academic language resulted in what Shaughnessy (1977, p. 49) calls, "lexical transplants" or "syntactic dissonances"; (3) The students tried to rely on their intuitions about language, in particular the sound of words. Often, however, they had been taught to mistrust what "sounded" right to them, and they were unaware of the particular feature in their speech codes that might need to be changed in writing to match the standard code. As a result, when they attempted corrections by sound, they became confused, and they began to have difficulty differentiating between what sounded right in speech and what needed to be marked on the paper.

Selective Perception These students habitually reread their papers from internal semantic or meaning models. They extracted the meaning they wanted from the minimal cues on the page, and they did not recognize that outside readers would find those cues insufficient for meaning.

A study of Table 6 indicates that the number of problems remaining in the students' written products approximates the number of miscues produced during reading. This proximity, itself, suggests that many of these errors persisted because the students were so certain of the words they wanted to have on the page that they "read in" these words even when they were absent; in other words, they reduced uncertainty by operating as though what was in their heads was already on the page. The problem of selective perception, then, cannot be reduced solely to mechanical decoding; the semantic model from which students read needs to be acknowledged and taken into account in any study that attempts to explain how students write and why their completed written products end up looking so incomplete.

Egocentricity The students in this study wrote from an egocentric point of view. While they occasionally indicated a concern for their readers, they more often took the reader's understanding for granted. They did not see the necessity of making their referents explicit, of making the connections among their ideas apparent, of carefully and explicitly relating one phenomenon to another, or of placing narratives or generalizations within an orienting, conceptual framework.

On the basis of these observations one may be led to conclude that these writers did not know how to edit their work. Such a conclusion must, however, be drawn with care. Efforts to improve their editing need to be based on an informed view of the role that editing already plays in their composing processes.

TABLE 6
The Talk-Write Paradigm
Miscues—Decoding Behaviors

	Tony	Dec	Stan	Lueller	Beverly	Totals
Unresolved problems	89	40	45	143	55	372
"Reading in" missing words or word endings	25	13	11	44	11	104
Deleting words or word endings	6	2	4	14	9	35
"Reading" the desired word rather than the word on the page	5	6	18	15	8	52
"Reading" abbreviations and misspellings as though they were written correctly	48	11	22	74	2	157
	84	32	55	147	30	348

Two conclusions in this regard are appropriate here:

1. Editing intrudes so often and to such a degree that it breaks down the rhythms generated by thinking and writing. When this happens the students are forced to go back and recapture the strands of their thinking once the editing operation has been completed. Thus, editing occurs prematurely, before students have generated enough discourse to approximate the ideas they have, and it often results in their losing track of their ideas.

2. Editing is primarily an exercise in error-hunting. The students are prematurely concerned with the "look" of their writing; thus, as soon as a few words are written on the paper, detection and correction of errors replaces writing and revising. Even when they begin writing with a tentative, flexible frame of mind, they soon become locked into whatever is on the page. What they seem to lack as much as any rule is a conception of editing that includes flexibility, suspended judgment, the weighing of possibilities, and the reworking of ideas.

IMPLICATIONS FOR TEACHING AND RESEARCH

One major implication of this study pertains to teachers' conceptions of unskilled writers. Traditionally, these students have been labeled "remedial," which usually implies that teaching ought to remedy what is "wrong" in their written products. Since the surface features in the writing of unskilled writers seriously interfere with the extraction of meaning from the page, much class time is devoted to examining the rules of

the standard code. The pedagogical soundness of this procedure has been questioned frequently,² but in spite of the debate, the practice continues, and it results in a further complication, namely that students begin to conceive of writing as a "cosmetic" process where concern for correct form supersedes development of ideas. As a result, the excitement of composing, of constructing and discovering meaning, is cut off almost before it has begun.

More recently, unskilled writers have been referred to as "beginners," implying that teachers can start anew. They need not "punish" students for making mistakes, and they need not assume that their students have already been taught how to write. Yet this view ignores the highly elaborated, deeply embedded processes the students bring with them. These unskilled college writers are not beginners in a *tabula rasa* sense, and teachers err in assuming they are. The results of this study suggest that teachers may first need to identify which characteristic components of each student's process facilitate writing and which inhibit it before further teaching takes place. If they do not, teachers of unskilled writers may continue to place themselves in a defeating position: imposing another method of writing instruction upon the students' already internalized processes without first helping students to extricate themselves from the knots and tangles in those processes.

A second implication of this study is that the composing process is now amenable to a replicable and graphic mode of representation as a sequence of codable behaviors. The composing style sheets provide researchers and teachers with the first demonstrable way of documenting how individual students write. Such a tool may have diagnostic as well as research benefits. It may be used to record writing behaviors in large groups, prior to and after instruction, as well as in individuals. Certainly it lends itself to the longitudinal study of the writing process and may help to elucidate what it is that changes in the process as writers become more skilled.

A third implication relates to case studies and to the theories derived from them. This study is an illustration of the way in which a theoretical model of the composing process can be grounded in observations of the individual's experience of composing. It is precisely the complexity of this experience that the case study brings to light. However, by viewing a series of cases, the researcher can discern patterns and themes that suggest regularities in composing behavior across individuals. These common features lead to hypotheses and theoretical formulations which have some basis in shared experience. How far this shared experience extends is, of course, a question that can only be answered through further research.

A final implication derives from the preponderance of recursive behaviors in the composing processes studied here, and from the theoretical notion derived from these observations: retrospective structuring, or the going back to the sense of one's meaning in order to go forward and discover more of what one has to say. Seen in this light, composing becomes the carrying forward of an implicit

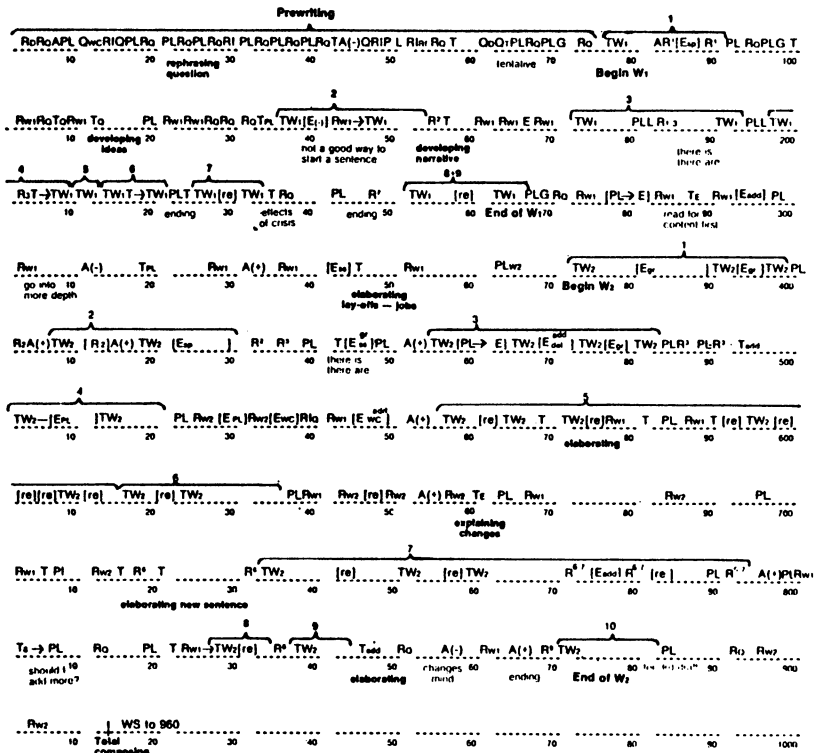
² For discussions on the controversy over the effects of grammar instruction on writing ability, see the following: Richard Braddock, Richard Lloyd-Jones, and Lowell Schoer, *Research in Written Composition* (Urbana, Ill.: National Council of Teachers of English, 1963); Frank O'Hare, *Sentence Combining* (NCTE Research Report No. 15, Urbana, Ill.: National Council of Teachers of English, 1973); Elizabeth F. Haynes, "Using Research in Preparing to Teach Writing," *English Journal*, 1978, 67, 82-89.

sense into explicit form. Teaching composing, then, means paying attention not only to the forms or products but also to the explicative process through which they arise.

APPENDIX

Composing Style Sheet

Name:	Tony	Mode:	Extensive TW.	Date:	October 31, 1975
Session:	1	Topic:	Society & Culture	Time:	11:00 AM - 12:30 PM



Writing Sample
TONY
Session 1
WI

All men can't be consider equal in a America base on financial situation.¹ Because their are men born in rich families that will never have to worry about any financial difficulties.² And then theyre / ~~the~~ ^{are} another type of Americans that is born to a poor family and al-
way / ^{may} have some kind of fina—difficulty.³ Espeicaly nowadays in New York city With
the bugdit Crisis / ^{and all} ~~He may~~ ^{If he is able} be able To get a job.⁴ But are now he lose the job just
as easy as he got it.⁶ So when he loses his job he'll have to try to get some fina—assistance.⁷
★ Then he'll probley have even more fin—diffuicuty.⁸ So right / you can't see that In
America, all men are not create equal in the fin—sense.⁹

Writing Sample
TONY
Session I
W2

All men can not be consider equal in America base on financial situations.¹ Because their are men born in rich families that will never have to worry about any financial ~~difficul~~ ~~the~~ difficulties.² And then they're are / another type of americans that are born to a poor family.³ And This is the type of Americans that ~~will~~ ^{may} / always have some kind of financial difficulty.⁴ Espeical today ~~today~~ ~~thein~~ new york The way the city has fallen ~~has fallen~~ ^{working} into fin—debt.⁵ It has become such a big crisis for the ~~people~~ ^{with the} people, in the ^{the} ^{is} ^{the} ^{is} If the working man is able to find a job, espeicaly ~~for~~ / ~~city~~ ~~a~~ city The way ~~the way~~ city / fin—sitionu is set up now, ~~He'll~~ ^{he'll} probly lose the job a whole lot faster than what he got it.⁷ When he loses his job he'll ~~pr~~ have even more fin—difficulty.⁸ And then he'll be force to ~~got~~ to the city for some fini—assi—.⁹ So right here you can see that all men in America are not create equal in the fin—sense.¹⁰

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