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Talk before writing: Oral rehearsal as a pre-writing strategy for high school students with difficulties in retrieval

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TALK BEFORE WRITING:
ORAL REHEARSAL AS A PRE-WRITING STRATEGY
FOR HIGH SCHOOL STUDENTS
WITH DIFFICULTIES IN RETRIEVAL

BY

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DISSERTATION

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in

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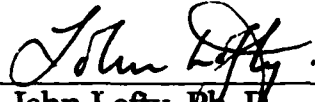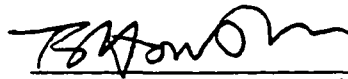
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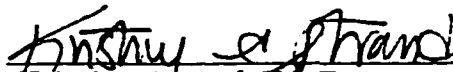
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DEDICATION

To my family

My husband Kenneth

Our children
Mairin, Devin, and Travis

and

My parents
James and Albina Sebern

The sources of my inspiration and my strength

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The process of writing this dissertation has been a lengthy one, encompassing many years of experience and thought even before I conceived of the present study. During these impressionable years in and out of the classroom, as both student and teacher, many people including my loved ones, my professors, my colleagues, and my students have influenced the shape of my educational ideals. When the continuing demands of this project seemed overwhelming, their support would remind me of the importance of my goal. For their assistance in keeping the dream alive and in helping me to maintain perspective, I would like to thank all those who contributed to the completion of this study.

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for their willingness to participate and for their good humor throughout the project. When obstacles appeared, it was the thought of all their hard work that motivated me to complete the project and to report the findings responsibly to inform educational practice. Christine Rath, the principal of my high school, also deserves my thanks for her steadfast support of my work.

Without the assistance of some talented and experienced scorers I could not have completed the analysis of the raw data in this study. Susan Farber, Susan Lauze, Susan Scarcello, and Christine Teague all deserve my thanks for their expertise and willingness to spend hours scrutinizing student compositions in painstaking detail. I would also like to thank Christine Teague and Devin Aubry for their help in editing parts of this dissertation.

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Most of all, I would like to thank my family for their love, their support, and their endurance. It will be nice to have my life with them back to normal.

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ABSTRACT

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ORAL REHEARSAL AS A PRE-WRITING STRATEGY
FOR HIGH SCHOOL STUDENTS
WITH DIFFICULTIES IN RETRIEVAL

by

Valerie Sebern Aubry
University of New Hampshire, May, 1997

This study investigated the effects of oral rehearsal used as a pre-writing strategy by twenty-eight high school students (21 males, 7 females) with difficulties in retrieval. Study participants read texts, wrote summary-response essays, and revised their compositions in two conditions: with rehearsal and without rehearsal. A repeated measures (2 X 2) X (2) design with Passage and Order of Treatment as the between-subject variables, and Condition as the within-subject variable was used to assess differences in compositions.

Eight quantitative measures, with four considered primary, were used to evaluate differences in the quantity, complexity, content, and quality of compositions. Positive changes were noted on all measures when students rehearsed orally. Participants composed using more diverse vocabulary ($F = 7.656$, $p = .011$) and more syntactically correct complex sentences ($F = 48.687$, $p < .0001$) after rehearsing. They incorporated more stimulus text ideas and elaborated more in their essays ($F = 20.55$, $p < .0001$). Holistic scoring confirmed improvements in overall effectiveness ($F = 5.054$, $p = .034$). Qualitative profiles of five students reflected increased accuracy, clarity, fluency, coherence, and voice when students talked through the material before writing.

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Results were interpreted in light of cognitive and social considerations. Cognitive factors discussed included increased reading comprehension, more fluent language generation, strengthened memory connections, and greater translating fluency. In the social domain students' heightened interest, increased motivation, more developed sense of audience, and improved self-confidence also facilitated writing. These results suggest strongly that oral rehearsal is a worthwhile pre-writing strategy for high school students with difficulties in retrieval.

CHAPTER I

INTRODUCTION

As a teacher of language learning disabled high school students and a former English teacher, I have long been interested both in the nature of writing difficulties at the secondary level and in strategies that will help students make long term improvements in the ease and expertise with which they write. Having watched many adolescents struggle with the written word, producing draft after draft without really understanding what (or even how) they are expected to produce, I have looked for ways to break the pattern of writing without sufficient planning, of revision without rethinking. The results of a study I completed with a small group of language learning disabled (Aubry, 1994) suggested that repeated oral rehearsals could cause fundamental shifts within the process of writing and bring about significant improvements in the students' organization of thought, use of appropriate syntax, and sense of audience in subsequent written drafts. Several of the students in that study had experienced particular frustration in writing due to problems with *retrieval*, with generating and organizing the words and language they needed to express their thoughts. With the purpose of following up on the suggestions of benefit in that project while broadening the exploration in scope and in depth of analysis as well, I decided to structure a study that would allow me to examine the results when a group of high school students identified with specific difficulties in the area of *retrieval* were asked to rehearse orally before beginning to write.

The study of writing draws on research in a number of related but distinct disciplines such as cognitive psychology, education and the study of

literacy, rhetoric, and communication disorders. Researchers and practitioners
in each of these fields use their own metaphors and terminology to explain
differences in students' writing. While the concept of *retrieval* may be more or
less familiar in the various disciplines and may find representation in diverse
ways in each of these fields, it is a well-established concept in cognitive
psychology, in the psychology of language, and in the allied field of speech and
language pathology. It is within this tradition that for the purposes of this
study *retrieval* is defined as including students' ability to call up individual
words efficiently but encompassing as well the capacity to generate word
choices spontaneously around a topic.

This study, then, represented an attempt to explore writing problems at
the high school level. My particular focus on the effects of repeated oral
rehearsals and writing developed from an interest in Gregg's (1991) suggestion
of the diagnostic usefulness of a comparison of oral and written products
combined with Murray's assertion that "Writing is a significant kind of thinking
in which the symbols of language assume a purpose of their own and instruct
the writer during the composing process" (Murray, 1982, p. 18). Some
students seem never to achieve such a thinking process in writing. As a result,
I thought that an analysis of their oral and written samples might well cast a
diagnostic light on the language features underlying some writing problems,
illuminating more clearly their areas of constraint. In addition, I felt the
alternating use of the two forms might allow some examination of the
contributions of each to the processes of thought and expression.

Although the relationship of oral language to writing has been explored
extensively at the early childhood and primary school levels, very little
research has been completed in the secondary school setting to investigate
how these forms can work together in facilitating the effective communication

of ideas. In spite of well-established links between difficulties with oral language and subsequent problems with written language in both reading and writing, orality and writing are often used in very different contexts during adolescence. Language difficulties in adolescence may also be more problematic to diagnose and to remediate due to their complex nature. Teachers of writing seldom have the background to identify the impact of language issues on student's writing fluency and written products.

Statement of the Problem

The interactions of the oral and written forms of language are evident in many facets of the learning process, employed in a variety of useful ways by individuals. In secondary schools, however, students are often asked to respond in writing directly after being presented with new material in text format. For those with difficulties in generating and organizing language to reflect their thoughts, this can present an arduous challenge. For these students the formulation of a written synthesis or response can be laborious. Their written products often do not begin to express their understanding and assimilation of new knowledge. This study was designed to investigate the ways in which oral rehearsal might help to bridge this gap between learning and the expression of learning in writing, particularly for students with retrieval difficulties. In this context the term *oral rehearsal* is used to indicate simply that the student spoke about the subject matter before writing about it. The questions that were explored include:

What differences are evident in the formulation and production of writing when students orally rehearse prior to drafting in written form?

What is the nature of changes in the written products composed with and without oral rehearsal, should such changes occur?

Could oral rehearsal be considered a viable pre-writing strategy for high school students with difficulties in *retrieval*?

Significance

To understand the significance of this undertaking it is necessary to return to the typical high school classroom and the demands placed on the average student. While a professional model of writing with its recursive stages of writing, revising, and editing has been generally accepted, and most teachers encourage classroom discussion, an individual student can easily go through an entire class posing perhaps one question, responding to a teacher's question in a monosyllable or short sentence, or listening without actively participating. In a class of twenty to thirty students, the time each needs to be on stage is necessarily limited. Small group discussions allow more active sharing, but students whose language retrieval is slow may not be able to formulate what they want to say quickly enough to keep pace with the group. The more fluent speakers may dominate, and even when the quiet students agree with what is being said, they tend not to get the needed practice in generating their own words to express the idea. Within the context of a process approach to writing, the students are asked to confer with their teacher or peers. Since teachers must confer with a number of students in a limited time, however, they may tend to be more directive than they would choose to be otherwise. Students who do not understand the import of what they are told return to their writing with only a vague idea of what needs to be "fixed." As one of my less confident students commented in an earlier study, "When the teacher tells me something on a topic, it kind of confuses me" (Aubry, 1995), but she admitted that in such a situation she would nod her head in understanding and not ask for clarification.

It was in a high school context impacted by such factors that I undertook the study which led to this project (Aubry, 1994). Frustrated that more time and more attention to their work was not reducing the number of needed drafts nor increasing the fluency of their writing, I decided to take a different approach with a small group of high school students with documented learning disabilities in some area of language. These four students (two seniors and two juniors, three females and one male) completed a study of Guatemala. Although the content reading typical of a high school class was completed in this project, the students were not asked to write immediately in response. Rather they were required to talk through, to rehearse orally in an extended format, what they understood and wanted to say before they composed anything in writing. A series of oral rehearsals followed by writings was completed, each with a slightly different format. For all the students involved the movement from oral to written form and then back to oral and written form again provided opportunities for changes in focus and clarity.

The changes brought about in the writing of these four students seemed to be most evident in the areas of organization of thought, the use of appropriate syntax, and the sense of audience. When they spoke first to a small group or to an individual, the students noted that the visible, responsive audience helped them to know when more explanation was needed. What I realized as their teacher was that the time they took to draft coherent, thoughtful essays was reduced significantly. The use of alternating oral rehearsals and written drafts caused a change in their thinking and in their style that four written drafts had never done. Student attitudes shifted from focusing on the difficulty of the assignment to taking charge of the process. Their final persuasive essays were much easier for the students to write because they had been able to explore the subject matter and refine what they

wanted to say in the much more familiar, comfortable format of talk before they began to write. For the students in this group who had experienced difficulties with retrieval, the practice pulling the words together in oral form led to much greater fluency in writing as well.

The results of this study led me to believe that extended oral discourse could have a positive effect on fluency and expression of thought in writing. The improvements evident in the students' writing suggested that rehearsing orally caused basic shifts in how they assimilated new information and in how they approached writing. Since the opportunities for extended discourse are limited in most high schools to courses particularly for that purpose, such as Public Speaking, talk of that type is seldom used as a pre-writing strategy. If it could be shown in a more methodical way than my original study to be a worthwhile strategy for some students, oral rehearsal could be integrated into classrooms. While the logistics of such an instructional technique might seem complex, results of a study I completed on audience (Aubry 1995) showed that rehearsal with a peer was generally at least as effective as rehearsal with a teacher. Working with small groups or in pairs is quite possible in high school, even with fairly large classes. What needed to be shown, however, was that the time and effort would be well-spent.

Pre-writing options of varied types are particularly important to students with language/learning disabilities such as those in retrieval since more time spent with traditional methods does not necessarily spark new ways of thinking nor increases in language fluency. With the increasing integration of special education students into regular classes, the importance of finding effective strategies that can be utilized in the mainstream classroom is heightened. Both content area teachers and special educators can benefit from a clearer perception of the bases of writing problems and a broader

knowledge of compensatory approaches so that difficulties can be more accurately diagnosed and appropriate instruction planned. The purpose of this study was to determine whether oral rehearsal when used before drafting and prior to revision would provide one effective pre-writing strategy for students with retrieval difficulties.

CHAPTER II

REVIEW OF THE LITERATURE

The particular focus of this study involves an evaluation of the effectiveness of oral rehearsal as a pre-writing strategy for high school students with difficulties in retrieval. While many of these elements have been investigated individually in some depth, there seems to have been little direct examination of this specific combination of factors. Historically, the differences and interactions between oral and written language have been the subject of much debate. The arguments raised in this discussion can contribute to an understanding of the background to this particular study. An historical perspective on the areas of writing instruction and of written language learning disabilities can also furnish a valuable frame of reference for this exploration. More recent research in the areas of writing and retrieval, of the nature of retrieval difficulties, and of oral rehearsal and writing can then be explored within this framework to lay the theoretical foundation for this current research.

Historical Perspective

Oral and written language. Much of modern research about the role of language development finds its roots in the work of Vygotsky (1962), particularly in his exploration of the relationship of language to thought. His view of language as actually contributing to the thought process focused increased attention on both oral and written language as tools for the development and clarification of thought. Constructing a continuum with inner speech and written speech at the extremes and oral speech in the middle,

Vygotsky pointed out that "the change from maximally compact inner speech to maximally detailed written speech requires what might be called deliberate semantics--deliberate structuring of the web of meaning" (Vygotsky, 1962, p.100). This spider web metaphor has historically provided a tangible means of conceptualizing the fine interconnections and dynamic interplay among all the elements of writing. Extended oral rehearsal may foster the transition from inner speech to writing by aiding the writer in joining the strands of the web to construct and convey meaning.

As Olson (1991) points out, theories about the relationship and interactions between oral and written language have varied over time. Although Havelock (1963), Goody and Watt (1963), Ong (1982), and others asserted that the acquisition of literacy dramatically alters cognitive abilities and gives rise to the capacity to think reflexively, other studies such as that of the Vai script literacy conducted by Scribner and Cole (1980) have caused reconsideration of such general claims and focused instead on more limited changes in cognitive skills through practice. Many researchers have documented the differences between the two forms. Halliday (1987) suggested, for instance, that the differences were found primarily in semantics and syntax, with spoken language seen as more complex syntactically but simpler lexically than written language. Chafe (1983) outlined the attributes of both, referring to written language as lacking the ego involvement, the interaction, and liveliness of spoken language, but as being more authoritative. In some of the scenarios presented, oral language or *talk* seems relegated to a subordinate position in relation to the more erudite *writing*. Once literacy has been achieved, focus on oral language has often been decreased.

For other researchers, however, the similarities and interactions between oral and written language have suggested an area of continuing

instructional potential. Moffett (1968), for example, structured an entire language arts curriculum based on the interweaving of the spoken and written word. Shaughnessy (1977) and Robinson (1990) continued Moffett's focus on the more orally based, conversational elements of language as they examined discourse structure and explored the effects of oral language on writing. Their error analysis of college students' written work revealed that frequently it was reliance on speech norms rather on writing norms that caused the difficulties in producing coherent writing. If speech patterns could so powerfully influence writing in a negative way, could they not also be shifted and utilized as a positive force in writing?

Kroll's (1983) delineation of stages in the development of writing skills that reflect the functional relationships between oral and written language may be particularly helpful in understanding the questions raised by these findings. The four phases he suggested are: *preparation, consolidation, differentiation,* and *integration*. In the *preparation* stage the young child learns those skills which "will enable him or her to engage in the first stages of independent writing" (p. 94). The child may dictate his or her ideas to the teacher in this phase. In the *consolidation* stage the child's ability to talk well is used as a resource in extending and strengthening written expression. Activities in which the forms and functions of writing are made similar to those of speaking are advocated in this phase as well as expressive writing and oral monologues. In the *differentiation* phase, the child begins to differentiate between oral and written language. Writers at this stage must stop using the ambiguous references, undefined terms, and sentences without transitional devices that are typical of spoken language. In the transition from *consolidation* to *differentiation* emphasis should shift from writing assignments which allow students to draw heavily on oral language to assignments in which

students need to use the "increasingly explicit and autonomous discourse of literate texts" (p. 95). In mature writing, the three earlier phases come together in a systematic manner to produce *integration* of the complex relationships between speaking and writing. Mature writers both *consolidate* and *differentiate*, depending on their intentions. This flexibility suggests that the interactions between oral and written language do not end when a child achieves the ability to write, but rather may continue and provide an ongoing method of double-checking meaning and increasing the effectiveness of expression.

Writing instruction. Such a schema for examining the relationships between oral and written language enlightens discussion of using spoken language to help in the production of writing. Even a cursory inspection of Kroll's stages can give some indication of the variability of any single student's skills in a particular situation, since interplay is possible between the *consolidation* and *differentiation* stages for even the best of high school writers. Any specific task may well call upon different understandings and abilities in individual writers. Thus the strategies that may aid any given student may vary according to the situation.

Writing is a complex process. Even within the area we refer to as "basic skills," not only must a child learn to spell words correctly, but he or she must know their meanings and their usage. Semantic knowledge is then coupled with an understanding of syntactic structures that make up the language. Punctuation, capitalization, and other mechanics supply signals to the reader about how the words and sentences should be read and interpreted. While talk generally relies on many nonverbal cues in addition to words, the writer must communicate with an audience seen only in the mind's eye. The message must not be fragmented or lose its train of thought. The writer's words must carry

thought and feeling to the reader without the aid of intonation, pitch, and gestures. The hand must be able to scribe the thought.

An acknowledgment of the complexity of this task has promoted more research in writing in recent decades. Expectations for writing competence have risen, fostering dissatisfaction with writing instruction in schools and the development of new directions for research. In 1986 Scardamalia and Bereiter traced nine new educationally relevant focuses of research on writing: early development of written symbolism, discourse analysis, story grammar, basic writers, the "new" rhetoric, writing "apprehension," classroom practices, "response," and the composing process. They mentioned as well the potential for neuropsychological research related to writing, an area that quickly links to the field of learning disabilities. In their discussion the authors explore the mental processes that go on in writing and note recent "substantial progress toward understanding the cognitive changes as oral language competence gets reshaped into the ability to compose written texts" (p. 780). In tracing the effects of research in these varied areas, they list four new approaches to writing instruction: strategy instruction, procedural facilitation (including conferencing and computer facilitation), product-oriented instruction, and inquiry learning.

As they delineate these methods of writing instruction, Scardamalia and Bereiter (1986) refer to the "artificial contrast" between product and process approaches to writing. Since the 1970's a movement growing out of the constructivist perspective has stressed the value of authentic reasons for learning to write and emphasized the social context in which children compose for real purposes, resulting in more attention to the "process" of writing (Graves, 1983; Calkins, 1986) . With the teacher acting as facilitator, the children in a process classroom write about topics they have chosen, share

with their peers, and follow through general stages of pre-writing, drafting, revising, and editing which are recursive in that any one of the subprocesses can be incorporated in another as the need arises.

While this process approach has been embraced widely, in part due to the National Writing Project, some issues have arisen. Dyson & Freedman (1991), for instance, have expressed concern about a writing process approach should it feature steps that are too rigidly recursive for children at all stages of development. In a meta-analysis of experimental studies in writing, Hillocks (1984) found what he refers to as the *natural process mode* to be about fifty percent more effective than the traditional *presentational mode* in which the instructor dominates. He noted, however, that it was also about twenty-five percent less effective that the average experimental treatment. He found the *environmental mode*, in which the instructor plans and uses structured problems-solving activities dealing with specific issues in composing, to be the most effective method of instruction of those reviewed in the meta-analysis and about three times as effective as the *natural process mode*. Applebee (1986) later suggested that what Hillocks described as the *environmental mode* was actually a version of process oriented instruction. Newkirk (1991) took issue with Hillocks' critique as well, calling his depiction of the *natural process mode* "a caricature of the positions taken by the educators he criticizes" (p. 338).

Many of the differences found in approaches to writing instruction are rooted in varied conceptualizations of the process itself and in divergent expectations for student outcomes in relation to the purpose of the writing task. A model such as that of de Beaugrande's (1984) "parallel-stage interaction model of text production," for instance, posits that the processes of symbolic construction go on more or less simultaneously and are

"interpenetrable"; that is, that whatever happens at one level of processing may alter the knowledge states at other levels. In this schema long-term memory, short-term memory, short-term sensory storage, and working memory play distinct roles in the composing process. The particular abilities and predispositions of any individual student will thus interact with the requirements of a writing task in ways that will affect the choice of instructional approach. Scardamalia, Bereiter, & Goelman (1982) discuss the effects of what they term *production factors* in writing, detailing how many different processes compete for limited attentional capacity during the act of writing. Flower (1985) addresses such concerns as short-term memory weaknesses with her Reader-Based/Writer-Based Prose. Production factors and short term memory factors are thus among the issues that can impact on any adolescent's ability to turn thought into writing.

This research into the process involved in writing emphasizes the complexity of the task and gives some insight into the instructional needs of students. While some will grasp quickly the transitions that must be made, others will look to the teacher for strategies and practice in making the leap to effective writing. Freedom to write is not sufficient for all. Students need guidance in unlocking their thinking in writing. The use of oral rehearsal, shifting back to a more familiar mode of communication, may well provide one tool for coping with the complexity of the task and overcoming the impact of burdensome production factors. For those struggling with the effects of a specific learning disability, the difficulties are magnified and strategies become even more important.

Writing Disabilities Shifts in the thinking about written language learning disabilities have largely mirrored the movement of the field of writing instruction in general, only the timeline has been delayed. Much of the early

work in written language disabilities, for instance that of Myklebust (1965) and of Levine (1987), followed the medical model. In a study of normal and exceptional children Myklebust investigated psychoneurological facets of learning to write, suggesting a hierarchical relation between language systems, with auditory skills acquired first, reading (visual receptive) acquired second, and written (visual expressive) acquired last. Weaknesses at any level of acquisition were seen to impair subsequent abilities.

Although Gregg (1991) continued the focus on underlying cognitive processing disorders as causes for written language disabilities, she suggested as well that professionals need to use a more holistic model if they hope to improve instruction. She differentiated between students whose deficits are attributable to poor instruction or lack of adequate experience in manipulating language structures, and those with underlying linguistic, visual-spatial, and nonverbal processing deficits. Focusing more precisely on the written language skills most likely to be affected by cognitive breakdowns, Gregg explored the areas of syntax, organization, and sense of audience in detail. Using copying, dictation, and spontaneous writing as assessment procedures, Gregg was careful to suggest that monitoring of student strategies and of the amount of time needed to complete a task is important in drawing conclusions about writing disorders. While she conceded that there are no standardized tests which adequately measure the elements of writing she considered important, Gregg suggested examining syntax, the cohesion and coherence of form, and the sense of audience. Gregg noted that a close analysis and comparison of an individual's oral and written language allows a much closer examination of the underlying language issues involved in an individual's writing difficulties.

As the cognitive processes in and the social context for writing have been stressed throughout the literature on language development, writing

instruction, and diagnosis of writing disabilities, it is clear that writing instruction for learning disabled students will need to focus on these areas. While difficulties with spelling, punctuation, and grammar often come first to mind when thinking of writing disabled students, very often the more significant issues, particularly for high school students, are those involving the cognitive processes underlying the formulation of ideas, the production of text, the organization of text, planning, and revising. As a result, the process approach to writing has been recommended as a means of developing both competence and interest in writing because it is a recursive, problem-solving strategy; it creates a social context in which students write for real audiences; and it provides for continuous, responsive interactions between teachers and students (Graham, Harris, MacArthur, Schwartz, 1991). While the current research base is not seen as developed enough to draw conclusions about the effects of a writing process approach on students with special needs, potential benefits are seen in the time spent on writing, the fostering of self-regulating abilities, and the integration of learning in reading and writing (Graham and Harris, 1994). Concerns involve an overemphasis on informal methods of learning and an overcorrection for meaning and process that may give little or no attention to the development of form. Thus to further aid learning disabled students in developing writing skills, the authors suggest both procedural facilitation and strategy instruction as well as process writing. They note that skilled writing "is not a passive activity. Rather, it is intentional and resourceful" (p. 280) .

In a review of the literature from 1980 to 1990 regarding the written composing ability of children with learning disabilities, Newcomer and Barenbaum (1991) recount the recent shift in emphasis in writing assessment and instruction. This shift in emphasis mirrors the change in the field of writing

instruction as a whole that took place somewhat earlier. While studies earlier in the decade focused on fluency, syntax, and mechanics, later studies examined the ability to generate story components and text structures as well as investigating metacognitive processes that learning disabled students use when composing. The correlation between mechanical skills problems (spelling, word sequencing, etc.) and holistic evaluations of writing content found in these studies suggests that the skills problems are only part of a general deficiency--"the tip of the 'poor writing' iceberg" (p. 583). Through all the studies they review Newcomer and Barenbaum note that the learning disabled writers were found to be deficient in the number of words, the number of sentences, the number of words with seven letters, the number of different words, and the variety of words they used. In spite of earlier suggestions to the contrary, the number or length of T-units (terminable units, Hunt, 1970), *independent clauses with or without subordinate or embedded structures that convey a thought,* was not found to be a reliable measure of syntactic maturity in any of the studies, however.

The shift in focus in writing assessment and instruction during the 1980's is important to an understanding of contemporary expository writing instruction for all students, but particularly the language learning disabled. Scardamalia and Bereiter's (1986) view of idea generation as the heart of the planning process in writing reflects the importance currently accorded to thought development and communication. The writer's ability to plan is seen as dependent on accessing ideas from background knowledge, reflecting on topics and ideas, utilizing memory strategies to initiate and sustain thinking about a topic, and researching topics to gain new information. They note as well that good writers tend to recall chunks of related information while young and poor writers use a knowledge-telling strategy. Rather than selecting

pertinent material, these immature or less effective composers simply pour out whatever comes to mind, without organizing their ideas or screening out unrelated information. Thomas, Englert, and Gregg (1987) later replicated Scardamalia and Bereiter's (1985) finding that learning disabled students used a "knowledge-telling" rather than a "knowledge-transforming" strategy when writing, noting that they seemed unable to use text structures to plan their writing. Thomas et al. (1987) pointed out four major types of errors: early terminations, redundancies, irrelevancies, and mechanical mistakes. They felt that inadequate retrieval strategies were limiting some students' abilities to write at any length about a topic.

In summarizing the responses of learning disabled writers to training and practice in varied studies, Newcomer and Barenbaum (1991) arrive at a synthesis that reflects the difficulties inherent in writing instruction for this group. Examining both small and large group studies, they conclude that "specific, highly individualized instruction in each relevant task and instruction in self-monitoring strategies" are needed (p. 590). Through their review of the literature, the authors illustrate the pervasive nature of problems experienced by learning disabled writers and confirm that the deficiencies existing in the planning, drafting, and revising processes are independent of mechanical deficits. Memory, production, and other cognitive limitations clearly impact expository writing ability. Importantly, Newcomer and Barenbaum pinpoint the areas of practice and increased motivation to write as the most critical commonalties for successful instruction in overcoming many of these limitations. They emphasize the importance of each student actively participating and taking charge of the process of writing if improvement is to be made and generalized across tasks. Orally rehearsing in front of an audience may increase personal commitment and participation, allowing

greater freedom in thinking through what to say when the pen begins to touch paper. Talking with a teacher or with peers is an active process which may increase motivation, confidence, and, in turn, fluency.

Current Research

Writing and Retrieval. The implications of the many factors competing for attention are great for high school writing instruction, for they suggest the areas and stages in which significant breakdowns can occur for students with and without diagnosed language disabilities. In 1980 Hayes and Flower proposed a model of the writing process that includes three components: (1) *planning* what to say, (2) *translating* those plans into writing, and (3) *reviewing* the plans and writing. While much research has focused on the planning and reviewing stages of such a model, little has been completed in relation to the translating phase, and it is this particular transition from thought to written word that may be most affected by language difficulties such as those in retrieval.

In a recent study McCutchen, Covill, Hoyne, and Mildes (1994) investigated this translating component of writing in relation to (a) the processes of sentence generation and lexical retrieval, and (b) processing constraints imposed by working memory limitations, examining whether writing skill was related to fluency in these areas. Their supposition was that weaknesses in these generally more automatic subcomponents of translating would result in a drain on working memory capacity and have a detrimental effect on the more "effortful" aspects of language generation and the higher level processes required in writing. Results of their two experiments supported the contention that skillful writers were significantly more fluent in both sentence generation and lexical retrieval than the less skillful writers.

The authors' (McCutchen et al., 1994) exploration of lexical retrieval fluency in relation to writing skill demonstrated that skilled writers benefited from being able to retrieve individual words more rapidly and more accurately than did less skilled writers. By contrast, the less skilled writers seem to be adversely affected by an added load on their resources during writing as a result of their difficulties with finding the right words quickly and accurately. Given the recursive, interactive nature of writing processes, the authors relate less fluent translating operations to weaknesses in the writer's ability to plan and revise on-line. Suggesting that further research is warranted in this area, the authors state their belief that, while isolated practice in translating fluency may have some effect on students' writing, "measurable improvement in the quality of their texts will most likely result if this practice is embedded within authentic writing situations that require students to coordinate translating with reviewing on-line" (p. 264). With this admonition in mind, this current study was structured to be as similar to a typical high school writing situation as is possible in a more clinical setting.

The Nature of Retrieval Difficulties. In order to understand more fully the relationship between fluent retrieval and writing, it is necessary to explore the interaction of the two basic processes of storage and retrieval. Although these are clearly related functions, each has a distinct role. While *storage* refers to the availability of information stored in memory, *retrieval* is concerned with the accessibility of that information. "*Storage strength* is a measure of how well the item has been learned, and *retrieval strength* is a measure of how easily the item can be accessed from memory on a given occasion" (Nippold, 1992, p. 2). Storage capacity is considered to be unlimited, but retrieval seems to depends on a much more delicate balance influenced by four critical factors: presence of cues, frequency with which an item is retrieved, competition from

other items in memory, and recency of learning (Bjork and Bjork, 1992; Nippold, 1992).

Many names and definitions have been given to retrieval issues over the years. *Word finding* is widely used to describe the difficulty children may have in calling up particular words that are known to them as part of their mental lexicon. German (1994) delineates three subgroups of students who demonstrate *word finding* difficulties: those with retrieval difficulties, those with comprehension difficulties, and those with comprehension and retrieval difficulties. She describes behaviors such as word repetitions, word reformulations, substitutions, insertions, empty words, time fillers, and delays as typical of children with word-finding difficulties. Adolescents who experience such problems are typically the quiet members of a class, the ones who live in fear of being called on for an immediate response. They may also be the ones who talk in circles while trying to remember the exact answer, or they might even be those who talk frequently but in pat phrases that contain little new information. Whatever their coping strategies, young people with retrieval issues typically have trouble recalling information in an organized fashion in order to express more developed, coherent thoughts. For the purposes of this study *retrieval* will be defined as including the ability to call up individual words spontaneously, but encompassing as well the capacity to generate word choices spontaneously around a topic. While for this study weakness in *retrieval* was simply a starting point or a determinant for inclusion of appropriate subjects, such deficiencies can extend well beyond the finding of individual words, and can impact writing in much more forceful ways.

Children and adolescents with problems in retrieval may experience a variety of difficulties. Since retrieval of words presupposes word knowledge, it may be that they have failed to add a sufficient number of new words to their

lexicon or to expand their understanding of word meanings and their formation of associations between words (Nippold, 1988). They may have trouble differentiating between the *sense* of a word found in their mental lexicon and its *referent* in a particular situation, or in recalling those with purely "referential nondescriptive semantic relations" (Semenza, 1989). Weaknesses in retrieval can lead to difficulties in learning to read, to comprehend what they read, and to express their understandings in oral or written form. Researchers (Wolf & Obregon, 1992; Wolf & Segal, 1992) have established links between word-retrieval deficits and developmental dyslexia, speculating that problems in timing may be a predetermining condition in the dyslexias. To improve retrieval skills Nippold (1992) posits that increases are needed in (1) naming speed and accuracy, (2) retrieval strength, and (3) the use of strategies. The type of practice and the opportunity for priming needed vocabulary and sentence formulation abilities provided by oral rehearsal may well prove to be one such strategy for students with weaknesses in retrieval speed and accuracy.

Oral Rehearsal and Writing. The idea of using oral rehearsal as a means to improving retrieval abilities is thus founded on the concept of building strength through practice in recall while utilizing strategies that "compensate for students' lacks in metamemorial and heuristic search" (Scardamalia & Bereiter, 1986, p. 786). Elaborative verbal rehearsals have in fact been found to be an effective learning strategy for high-risk college students (Simpson, Olejnik, Yu-Wen Tam, and Suppattatthum, 1994). Capitalizing on the effects of verbal production, the authors involved their learners in constructing generalizations, thinking of personal examples and applications, and responding to texts on personal levels as they attempted to master previously unfamiliar material. When the effects of the elaborative verbal rehearsals on

subsequent recognition and essay questions were contrasted with those of simple verbatim exercises, significant differences were noted. The students completing the elaborative verbal rehearsals performed in a superior fashion on almost all criteria, including essay writing. The authors suggested that Wittrock's (1990) generative model of comprehension provides an explanation for such changes since the elaborative verbal rehearsals allowed the students to reconstruct the information in more familiar terms and to relate their own experiences to the source material.

A Social Cognitive View of Writing. To focus exclusively on these more cognitive aspects of retrieval, writing, and oral rehearsal would be to ignore critical social factors influencing the ability of high school students with such difficulties to express meaning in writing. Harking back to Vygotsky's "web of meaning," Flower (1994) suggests a more inclusive view of writing that incorporates differing historical perspectives into a dynamic relationship between social and cognitive aspects of literacy. Echoing the concerns of Scardamalia and Bereiter (1986) and others that the field of writing instruction has been artificially polarized, she contends instead that both the literary tradition with its roots in theories of creativity and self expression (e.g., Britton, Graves, Elbow) and the rhetorical tradition with its emphasis on transactions between writers and readers have contributed to a reconception of literacy as a social and cognitive action. Within Flower's framework of a social cognitive view of writing, becoming literate depends both on a knowledge of social conventions and on individual problem solving. Crediting the literary tradition with success in promoting a coherent community for literate action, she draws on both social and cognitive research to understand the diverse factors affecting the writer in the act of composing.

The relationship between the social and cognitive aspects of writing is not a static one, but rather is a "situated" one. Flower (1994) describes literate actions as sites of tension or conflict, pointing out, "Through an unpredictable dialectic, these forces somehow converge and cooperate in the making of meaning. In socially situated acts of cognition, public and personal meaning, convention and originality are always pushing, shaping, and tugging at one another" (p. 32). In this context writers are continually negotiating among powerful forces in order to formulate and express their thoughts in writing. The strands of their stories and arguments interweave, creating a patterned whole. To minimize the importance of either the cognitive or the social factors to successful construction of meaning in written form would be a mistake.

This acknowledgment of the significant roles of the social and the cognitive domains in writing provides a basis for this current exploration of the effects of oral rehearsal on the writing of high school students with difficulties in retrieval. While their cognitive weaknesses in the area of retrieval compromise their ability to express themselves fully in both oral and written forms, these students cannot be viewed as only responding to the task of writing itself. The context in which they write and the relationships they establish within that context are equally important to their success. Evaluation of the effectiveness of oral rehearsal as a pre-writing strategy for students in high school will depend on an examination of all aspects, both social and cognitive, of this project.

Summary. Spoken language is more spontaneous and more easily revised than written language. As a result, it may provide an effective transition between thought, what Pinker (1994) might term "mentalese," and writing. For adolescents in general, but particularly for those with retrieval difficulties, oral language may allow the opportunity to manipulate ideas and

vocabulary in a non-threatening situation, to try out understandings before committing them to paper. By reducing anxiety, it may contribute to increased motivation to write. Talking with another person may also foster greater personal engagement with the subject matter. Drawing on the auditory quality of talk may prompt new understandings and the formation of more creative conceptual frameworks. The National Oracy Project in Britain has begun to recognize such oral language attributes and to document the importance of "talking to learn" (Barnes, 1993; Lofty, 1996). Espin and Sindelar (1988) found that auditory feedback alone led normal and learning disabled students to correct errors in written text more appropriately. In discussing the problem of *internalization* for students learning to write, Scardamalia and Bereiter (1986) suggest that an 'assisted monologue' where the talking is primarily done by the student, with the teacher inserting prompts rather than conversational turns can be a helpful strategy. Practice and expertise in the consolidation stage of spoken/written language may thus contribute to arrival at the differentiation phase when it becomes appropriate.

The role of oral rehearsal in increasing translating fluency may be significant, bringing forth words and sentences in a more spontaneous context. Once the words have been recalled and the thoughts outlined in speech, putting them into writing may become a much less daunting task. Allowing the "inner speech" to find expression in verbal form first allows greater feedback and assistance in the movement along the continuum toward carefully articulated written form. In so doing, it may contribute to Vygotsky's "deliberate semantics--deliberate structuring of the web of meaning" (1962, p. 100). Like the many individual strands of a web that intersect and interact dynamically, specific features of writing must be carefully joined together to construct and convey meaning. Extended oral rehearsal may help to foster the transition

from inner speech to writing by providing one means of structuring this web of meaning. It was with this thought in mind that this research project, the investigation of the effects of extended oral rehearsal on the writing of high school students with retrieval difficulties, was completed.

CHAPTER III

METHODOLOGY

Writing is a process filled with complex interactions between the writer, the specific task, and the conditions under which the composing is accomplished. As a result, it can be difficult to isolate the effects of any single change in the conditions. It can also be onerous to attempt to match groups of writers accurately for comparison purposes. Consequently, to examine as precisely as possible the changes that take place when students orally rehearse before writing, this study is structured in a repeated measures design in which each student's writing is evaluated in two different conditions, with and without oral rehearsal.

Subjects

The participants in this study were twenty-eight students (21 males, 7 females) in grades 9-12 who were enrolled in regular high school programs. The group included students from one public and two private schools in the ninth (1), tenth (10), eleventh (9), and twelfth (8) grades. Mean age of the participants was 17:3, with a range from 14:11 to 18:11. All had been identified as either learning disabled or speech/language impaired according to special education guidelines in their home states and were receiving some support services in their present placements.

This study was designed to examine the effects of a pre-writing strategy on the writing of those students who have demonstrated difficulties with word finding/retrieval skills. The following three steps were used to identify

appropriate candidates: teacher nominations, records reviews, and retrieval screening.

Teacher nominations

Initially, special education teachers at the three participating high schools were asked for referrals of students whose profiles reflected average to above average intelligence and mainstream school placement, but whose language difficulties suggested problems with retrieval. I explained that in classrooms these students are typically those who speak very little or who have trouble remembering specific facts, names, places, or dates from their lessons even though they are able to grasp the concepts presented. They might also be the students who seem to talk in circles or in pat phrases without relaying much information. Since most teachers would be primarily aware of the students' retrieval skills only in the context of discourse, I highlighted the *Characteristics of word finding difficulties in discourse* delineated by German (1994, p. 327) which include: word repetitions, word reformulations, substitutions, insertions, empty words, time fillers, and delays. I explained how each of these behaviors might occur in classrooms and gave examples. As I spoke with the teachers, I also delineated the other elements of the criteria for inclusion in the project. Suitable candidates were those who would: (1) demonstrate average range ability; (2) be native speakers of English; (3) not be identified with a primary code of emotionally disturbed; (4) have sufficient verbal fluency to complete the designated tasks; (5) be students in the ninth, tenth, eleventh, or twelfth grade; (6) be between the ages of approximately fifteen and twenty.

Records review

Given teacher referrals of fifty-nine students, I reviewed existing data on the proposed subjects to determine if they met the criteria for inclusion in this

project. Prior testing which documented the existence of retrieval/word-finding difficulties was of particular interest.

Screening for retrieval difficulties

Once referrals were made and existing data reviewed, the thirty-four students who seemed most appropriate and for whom parental/student consent/assent was obtained were screened for vocabulary knowledge and retrieval issues via a combination of instruments:

Peabody Picture Vocabulary Test-Revised (Dunn & Dunn, 1981). On this measure, the examiner states a word and the student must select from a series of four line drawings the one which most accurately represents that word. For instance, when the word "feline" is given, the student would be expected to choose the picture of the cat rather than any of three other animals illustrated. As the PPVT-R does not require the student to generate either a word or a definition, it taps knowledge of word meaning without the language generation or retrieval requirements of naming or defining words. Through the use of age tables PPVT-R raw scores (the number of correct responses plus the number of items not administered below the basal) are converted into standard scores with an average of 100 and a standard deviation of 15.

The Boston Naming Test (Kaplan, Goodglass, & Weintraub, 1983). This confrontational naming task requires the participant to identify a series of pictures quickly and accurately. The test includes sixty (60) items such as: *stethoscope, escalator,* and *compass* which must be named verbally within twenty seconds. Stimulus and phonemic cues are given if an examinee is not successful spontaneously in order to obtain more detailed skills information. The BNT was used in this screening to determine if students experienced retrieval difficulties when asked to name objects.

The "Divergent Production" subtest of the Fullerton Language Test for Adolescents (Thorum, 1986). In this subtest the participants are given a category such as *different parts of the body* or *different types of grocery store items*. Then they are asked to list spontaneously all the pertinent items they can within twenty seconds. Their responses reflect students" fluency in generating language and provide insight into their strategies for retrieving words quickly. This task was used to complete the screening.

Inclusion in this study was based on a discrepancy of at least one standard deviation between an individual's receptive vocabulary knowledge (Peabody) and his/her word-finding/naming ability (Boston Naming and/or Fullerton) as measured on these tests. Qualitative information provided by teachers about the students' everyday classroom functioning was also reviewed in the selection of appropriate candidates. Evidence of behaviors in daily situations such as the word repetitions, reformulations, substitutions, insertions, empty words, time fillers, and delays described by German was used to confirm the appropriateness of candidates.

The mean standard score of those students who met the criteria and who agreed to participate in the study was 101.6 on the Peabody Picture Vocabulary Test. With the raw scores from the other tests transformed into standard scores (mean of 100 and standard deviation of 15) for comparative purposes, the group's mean standard score on the Boston Naming Test was 78.25 (mean raw score = 49.3) while on the Fullerton Divergent Production subtest it was 81.4 (mean raw score = 45.9). As a result, the subjects' mean discrepancy from the Peabody Picture Vocabulary Test mean standard score was -23.35 on the Boston Naming and -20.2 on the Fullerton subtest, a difference of approximately one and one-half standard deviations on each.

Materials

In preparation for writing students read two stimulus texts (one for each condition) which were matched as closely as possible for length, reading difficulty, concept density, and interest level. The subject matter of these articles was critical since I wanted the students to be able to read and understand each text without unnecessary delay. As the bases for student writings, the texts needed not only to deal with familiar topics but also to include new information because I was interested in observing how the two instructional conditions facilitated the integration of experience and text content. In addition, it was desirable that the chosen texts be similar to regular high school reading materials. As a result, two selections from an actual consumer education textbook were adapted for use in this project. Text I, "Teenagers in the Market" (Green, 1988, p.36-37), was 409 words long with 204 different words included (Appendix, p. 202); Text II, "Career Decisions" (p. 174-175), was 430 words with 208 different words (Appendix, p. 204). While the original articles were changed as little as possible, they were adjusted in word choice, sentence length, and content in order to be comparable in terms of ideas, new vocabulary, and readability levels. On the Fry Readability Scale (Fry, 1968) which uses computations of sentence lengths and syllable count per 100 words to determine grade level equivalents, both articles were placed at the early to mid eleventh grade. They would be considered typical of a high school textbook reading assignment. In this study the articles were read aloud to all participants to eliminate concerns that reading decoding weaknesses would limit students' understanding of the material.

Procedures

As the intent of this study was to determine the effectiveness of oral rehearsal as a pre-writing strategy that could be used in schools, every effort

was made to design the writing procedures to replicate as closely as possible the students' regular classroom experience. As described above, the stimulus texts were chosen from a high school textbook. In addition, students were asked to write the kind of summary/response that would be typical of many secondary school assignments following the reading of a new text. During all their composing times the students had a printed copy of the following instructions regarding what should be incorporated in their writings:

Remember

In your summary of and response to the text, please include:

1. **Generalizations** that are based on what you have read.

2. Your **personal reactions** to what you have read.

3. The **key ideas** that the author discusses in the text, put into your own words.

4. **Examples** or **details** from the reading to explain each important idea.

5. **Personal examples** or **ways that you might be able to use** what you have read.

Before you begin to write, remember to **organize** what you have to say so that it will make sense to someone who has not read the text.

(Adapted from Simpson et al., 1994)

Students were assured as they wrote that spelling would not be considered in the evaluation of their writing. Whenever they asked, they were told how to spell a word correctly. Since most classes in these schools utilized a professional model of writing with the opportunity to revise a first draft into a finished copy, the subjects were asked both to write and to revise each of their essays.

The oral rehearsals themselves were structured to be similar to the format in which students would normally confer with classroom teachers or with their peers. Prior to the first draft each student rehearsed with me; before revising two students were paired for a discussion. For the purposes of this study, the term *oral rehearsal* means simply that the student spoke about the reading before writing about it. As an integral part of this rehearsal, the students were asked to include each of the items on the list of instructions. During the first rehearsals, I made a concerted effort to interject as little as possible while still encouraging the students to continue speaking. If they seemed to founder, I would cue them to the points they were asked to cover. Interactions between the two students during the second rehearsal were spontaneous and not teacher-directed although each student did have their own copy of the points to be covered in the written summary/response.

The twenty-eight students selected for this project read two texts and wrote about each. In order to screen for topic interest and practice effect as factors while examining the changes brought about by oral rehearsal, the students were divided randomly into four groups which were then counterbalanced for order of text selection and of condition. Table 1

Table 1--Procedures: Order of Texts and Conditions for the four groups of subjects.

	Day 1 / Day 2 (draft) (final)	Day 3 / Day 4 (draft) (final)
Group A	Text # 1 Without Rehearsal	Text # 2 With Rehearsal
Group B	Text # 1 With Rehearsal	Text # 2 Without Rehearsal
Group C	Text # 2 Without Rehearsal	Text # 1 With Rehearsal
Group D	Text # 2 With Rehearsal	Text # 1 Without Rehearsal

delineates the order of activities for the four groups over the course of the project. I used a repeated measures (2 X 2) X (2) factorial design with Passage ("Teenagers in the Market" vs. "Career Choices") and Order of Treatment (Without Rehearsal/ With Rehearsal Vs With Rehearsal/Without Rehearsal) as between-subject variables, and Condition (Without Rehearsal Vs With Rehearsal) as within-subject variable to evaluate the changes in the written products composed in this project. During all writings the students had access to the original text. Oral rehearsals were tape-recorded, all written products collected, and times spent on composing noted. Table 2 shows the procedures followed by students in each condition:

Table 2--Procedures: Sequence of Activities in the Two Conditions

Condition #1--Without Rehearsal	Condition #2--With Rehearsal
First day	*First day*
1. The teacher read one of the texts aloud.	1. The teacher read the other text aloud.
2. The students read the same selection silently.	2. The students read the same selection silently.
3. The students took a few minutes to organize their thoughts;	3. The students orally rehearsed their summary/responses individually with the teacher before they began to compose. The teacher provided prompts as needed.
4. The students wrote a summary of and response to the text.	4. The students wrote a draft of their summary/response to the text.
Second day	*Second day*
1. The students reviewed their drafts while having access to the original text.	1. The students reviewed their draft with access to the original text.
2. The students were given time to evaluate how well they had expressed the important ideas and how they had organized their response.	2. The students then orally rehearsed once again, this time in a conversational format with one other student.
3. The students revised and wrote a final copy.	3. The students revised their essays and wrote a finish copy.

Students met with me for approximately 45 minutes for the pre-testing. Each of the four subsequent steps (reading/reflecting/writing or reading/rehearsing/writing) was generally completed within one high school class period of 45 minutes. Thus the time commitment for any one student was less than four hours. The meetings were scheduled within the school day and did not incur any penalties from regular classes. Meetings were spaced in order to minimize their impact on a student's schedule. After completing all of the written exercises, ten students were also briefly interviewed to gauge their reactions to oral rehearsal as a pre-writing strategy. Following review, the information from these interviews was integrated into the qualitative student profiles included as part of this study as well as into the general discussion of results.

Measures for analysis

A variety of methods have been used to measure writing skills. The quality of changes that occur in writing are difficult to assess, however, and each of the techniques suggested for judgment has its own weaknesses. The focus of writing assessment has recently shifted along with the field of writing instruction to give greater attention to content, organization, and presentation rather than focusing exclusively on the grammatical concerns more prominent in the past (Huot, 1988). Since the critical issue in this project was the formulation of language to convey a student's thinking, assessment procedures needed to consider factors contributing to the generation and organization of ideas in writing. Given the difficulties of students with retrieval problems, the evaluation had to be particularly inclusive, encompassing measures at the levels of fluency, word choice, sentence structures, content, and discourse. As

a result, a combination of methods was used to examine the writing samples produced in this study in terms of quantity, complexity, content, and quality.

As the appearance of written copy can sometimes affect a scorer's response to a piece of writing, all the compositions in this project were typed and printed prior to any analysis. This eliminated any confusions or biases caused by handwriting. As spelling errors were not considered in the evaluation of writings, they were corrected in the typed copy. Grammar and punctuation were kept as written.

Quantity

As students with retrieval difficulties are generally less fluent in generating words in either spoken or written language than their peers, the first measure I employed in analyzing the written samples was simply the Number of Words Written. Given that the same production factors would be influencing their writing with or without rehearsal, the students' willingness and ability to continue composing was seen as an aspect worthy of investigation. Research has shown that skilled writers write more words than those who are less proficient (Deno, Marston and Mirkin, 1982).

The second, and more important, measure at the level of quantity was the Number of Different Words used in the compositions. Precise and appropriate word choice can be a significant difficulty for those with word-finding constraints. As a result, not only was it important to note students' overall ability to generate words but also to examine those words to determine whether students were simply repeating and reusing the same words rather than varying their vocabulary as they developed the topic. With this in mind, all the written samples were coded and analyzed using materials from The CHILDES Project: Computational Tools for Analyzing Talk (MacWhinney, 1993) and the Computerized Language Analysis (CLAN) program. The

Number of Different Words (NDW) in each writing was computed and frequency counts of words were noted to allow further examination of word choices. Lexical diversity has been shown to be a significant factor in teacher assessments of writing quality (Grobe, 1981; Neilsen & Piche, 1981).

Complexity

The next two measures, the Percentage of Complex T-Units and the Percentage of Correct Complex T-Units, were both designed to examine essays at the level of sentence complexity. One of the most persistent problems for learning disabled writers has been difficulty in using cohesive syntactical structures correctly. In a study comparing spoken and written language samples of ten language learning disabled students ages 9-12 to those of three groups matched for age, reading ability, and language development, Gillam and Johnston (1992) found a significant difference in the writing of the learning disabled group. While their ability to produce complex T-units (terminable units, Hunt, 1970) that were grammatically correct was not noticeably impaired in spoken language, the learning disabled group clearly was less able to do so in written language. Children in both the Language Learning Impaired (LLI) group and the younger group matched for reading (READ) level used more complex linguistic forms (percent of correct complex T-units and connectives per T-unit) in their spoken narratives than in their written ones; the groups matched for language development (LANG) and age (AGE) used more complex forms in writing.

Upon closer examination of the grammatical structures used by all the subjects in the study, Gillam and Johnston (1992) noted that the LLI group differed from the other three in several ways: (1) more grammatical errors were evident in both simple and complex T-units; (2) more errors were made in complex T-units than in simples ones so that the LLI percent of complex T-

units in writing was affected disproportionately; and (3) only the LLI group revealed significant differences in their percentage of error between the spoken and written forms of their narratives. This was particularly noteworthy in their use of complex T-units, with an error rate of 19.1% of the time in spoken narratives and 78.3% of the time in written narratives. (p. 1310) If the complex T-units written by the LLI group had been employed correctly, their pattern of grammatical usage would have matched that of the LANG and AGE groups, with a higher percentage of correct complex structures in writing than in spoken language, rather than the less mature pattern of the younger READ group.

Since the ability to use complex sentence structures correctly and appropriately thus seems to mark a difference between the learning disabled and other writers, examining the use of such devices in the samples produced in this study was considered important. To facilitate such analysis, all the finish copy writings were segmented into T-units (terminable units, Hunt, 1970). By definition a *T-unit* is *an independent clause with or without subordinate or embedded structures that convey a complete thought*. Although T-units in isolation have been shown to be inadequate measurements of syntactic maturity (Newcomer and Barenbaum, 1991), they can prove useful when looked at in specific ways for purposes of comparison. Drawing on Isaacson's (1988) suggestion that the number of correct uses of a particular skill be divided by the total number of opportunities to obtain the proportion of correct use, I chose in this case to compute both the Percentage of Complex T-units in each writing and the Percentage of Correct Complex T-units. I was then able to compare both the frequency and proficiency of each student's use of more complex sentence structures in the two conditions, with rehearsal and without rehearsal. As the boundaries between correct and incorrect T-units could in

some cases be blurred, twenty percent of the compositions were selected at random and scored independently by a high school English teacher with expertise in the area of grammar. Interrater agreement on the Percentage of Correct Complex T-Units was .956.

Content

To evaluate the compositions at the content level, I used three measures, a Material Score, a Reaction/Elaboration Score, and a Content Total score, based on the inclusion of ideas from the text and generation of their own responses. The two stimulus texts used in this study, "Teenagers in the Market" and "Career Decisions," were chosen because they presented material that was both informative and well-organized. As a result, the students' summary/responses could be expected to reflect their understanding of the structure and content of the articles as well as their own reactions to the information. In order to gauge how effectively the students assimilated the material presented and how perceptively they were able to elaborate on or react to the content, I constructed a scoring rubric for each text (Appendix, pp. 206-207). Individual items were weighted in the scoring according to their importance to the meaning of the article.

In the scoring rubric six general areas were evaluated in relation to the content of each text (the Material Score), including: the students' provision of an overview of the material (1 point), their use of new vocabulary introduced in the reading (1 point), their statement of a conclusion that could be drawn from the text (1 point), and three areas of facts (ranging from 1 to 3 points depending on the number of details mentioned) specific to each of the articles. Five of these areas (excluding the vocabulary item) were then scored separately based on whether the student provided written elaboration, reactions to the text, examples from their own experience, or possible

applications of the ideas presented in the selections (the Reaction/Elaboration Score). After evaluations of both material and elaboration were completed separately, a composite Content Total score (Material Score + Reaction/Elaboration Score) was also computed for each student in the two conditions. For any single composition, the total number of points a student could possibly receive for the Material Score was 9: the maximum for the Reaction/Elaboration Score was 5 points. For the Content Total Score the highest possible number of points was 14. To confirm the appropriateness of the scoring on all three content measures, twenty percent of the essays were selected at random and scored by another educator following the rubrics I had developed for each text. Interrater agreement was .92 for Material, .93 for Reaction/Elaboration, and .935 for Content Total.

Evaluation of both the students' ability and willingness to reconstruct the content of the passage and to elaborate on the information presented was important to assessing the influence of oral rehearsal on comprehension and the capacity to make connections between new learning and old. These skills are called upon in classroom settings whenever unfamiliar information is introduced and must be related to prior knowledge and experience.

Quality

The final measure used to evaluate the students' compositions was a Holistic Score designed to assess the quality of writings at the discourse level. No matter how complete a student's understanding is or how many of his/her own ideas are included in a writing, the ability to present thoughts in organized, coherent written form continues to be an additional significant concern. In many cases a high school teacher's overall impression of the coherence and effectiveness of a writing will determine to a large extent the grade that it receives. In order to make judgments about the writings produced in this study

with and without oral rehearsal in a manner that is most consistent with classroom practice, a holistic scoring method was used along with the other measures. Methods of holistic scoring vary to some extent, but generally include: (1) sorting a group of writings into quality-based categories, (2) selecting compositions that best exemplify each category (to be designated as "anchors,") (3) formulating descriptions of common elements in the anchors to design a rubric for scoring, and (4) assigning a single score to each of the writings in the collection based on comparison with the anchors and rubrics (McFadden and Gillam, 1996; Myers, 1981). Although analytic scoring is generally considered the most reliable of direct writing procedures (Scherer, 1985; Veal & Hudson, 1983), holistic scoring has been shown to correlate well with analytic procedures (Freedman, 1984) and is more efficient. In this case, the other measures employed for assessment had already examined student writings at the levels of word choice and sentence structures. Holistic scoring, which allows a more overall judgment of quality, is affected most significantly by content and organization (Freedman, 1979; Huot, 1988). As none of the other measures considered organization and more global discourse features, I chose holistic rating to complete the assessment of student writings in this study.

In this holistic approach two scorers rated each finish copy with particular attention to the ideas presented, the coherence of the text, the organization of the information, and the writer's awareness of his/her audience. Both scorers, one a high school English teacher and the other a speech and language pathologist, had extensive prior experience in analytical and holistic assessment of writing. Prior to reading the essays, the scorers read both stimulus texts in their entirety and were familiarized with the list of instructions and points to include which had been given to the students.

The holistic scoring was completed on a scale of 1 to 6 (Appendix, p. 208). Descriptions for each of the categories in the scoring rubric used those from the Wechsler Individual Achievement Test (Psychological Corporation, 1992) and the New Hampshire Educational Improvement and Assessment Program (Advanced Systems in Measurement and Evaluation & New Hampshire Department of Education, 1996) as models but were tailored to suit details of the particular stimulus texts. A score of 1 represented a response that was considered to be "bare" with only "vague or sketchy details." It also lacked organization or focus. At the other end of the scale, a response that earned a rating of 6 was "complete and unified...thorough, well-organized, and well-written." Transitions were effective and the writing was "vivid" with "strong attention to detail." As preparation for the scoring process, I read through all the writings and selected from the compositions samples that I considered to be representative of each of the categories 1 to 6. These compositions (one set for each of the stimulus texts) were then designated as the anchors for this procedure. Before beginning to examine the written products in this study, the two evaluators discussed the attributes of each anchor and practiced scoring on several samples that were constructed to be similar to the students' compositions. In the discussion about the "Career Decisions" anchors, both scorers were concerned about the appropriateness of one of the selections, so another composition was substituted that they felt was more representative of the category. Compositions on the two topics, "Teenagers in the Market" and "Career Decisions," were evaluated in separate groups so that the scorers could compare similar material.

After both scorers had completed the group of essays on one topic, I collated and compared their assessments. If the two scores for a given writing were the same or within one point of each other, they were averaged into a

single holistic score for comparison. This was not considered to be a significant difference. If the two scores were more than one point apart, I brought the discrepancy to the attention of the scorers. We would then discuss their reasons for the particular score and attempt to resolve the inconsistency. In the data for this project, an individual student's Holistic Score represents the average of the ratings recorded by the two scorers.

Qualitative Profiles

Central to any investigation of the quality of adolescents' writing is the awareness that the texts high school students produce represent their understanding of the problem to be solved or the task to be completed. As a result, the formulation and communication of meaning remains the most critical overall concern. In this study I explored adolescent writing in the areas of quantity, complexity, content, and quality. To complete the analysis, I chose measures that are considered to be reliable and valid in evaluating specific aspects of the writing. Although my approach is primarily analytical, it is important for readers to remember that the individual features selected for examination gain their meaningfulness primarily as they interweave, supporting and enhancing each other. As the writer stretches or presses on any one strand, the entire structure of the written web responds.

To provide a closer view of how these varied elements interacted in individual compositions and of how students reacted throughout the project, qualitative profiles of five participants are included in Chapter V. They will be discussed in conjunction with results of the quantitative measures in Chapter VI. In these profiles differences in accuracy, clarity, fluency, coherence, and voice can be explored in more depth. Through these student portraits the changes brought about by oral rehearsal can be contextualized and evaluated in relation to their contributions to the overall meaning of individual writings.

Interviews

In order to evaluate the changes effected by oral rehearsal as a pre-writing strategy in the most perceptive manner possible, I felt it important to understand the process from the student's point of view. To elicit their perspectives I interviewed ten of the students involved in the study after they had completed all the activities. Prior to speaking with them, I composed a set of questions, shown in Table 3, to guide our discussion. While we were talking, I

Table 3--Questions to Guide Interviews

1. In this project you responded to two readings with writes and rewrites. Is this typical of the work you do in classes? Why? Why not?

2. Do you normally rewrite like this?

3. Which reading did you prefer?   Why?

4. With one reading you talked about the article before you wrote. Did that make a difference to:
    (a) how well you understood what you read?   How?
    (b) what you remembered of what you read?   How?
    (c) how easy it was to start writing?
               to keep writing?

6. Did you know the student you talked with at all?   Very well?

7. Were you more comfortable talking through the article with me or with the other student?

8. What would have made the talking more comfortable?

9. When you did not talk about the article before you wrote, what did you rely on to organize your writing?

10. On which first writing do you think you spent more time?

11. What factors influenced how long you wrote?
    (a) the article itself
    (b) talking or not talking
    (c) having another student nearby
    (d) how much you had already written for me
    (e) other work you were doing in school at that time
    (f) other work you needed to complete

12. What did you like the best in what we did?

13. What did you dislike most?

14. When you look at what you wrote in this project, which final copy do you like best? Why?

15. In general, when you write, do you usually have trouble figuring out what to say?

16. Do you usually have trouble finding the right words to say exactly what you mean?

17. Did you find anything easier when you talked about the topic before writing?

18. Did you find anything harder when you talked before writing?

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wanted to be sure to learn whether the steps we had followed were similar to their individual experiences in high school and whether they had ever used oral rehearsal as a strategy before participating in the study. I hoped to understand their feelings during each step of the process, and to determine whether their perceptions of what they had done were supported by my own notes taken during their writing and by the compositions they had produced in each condition. I wished to ferret out as well whether they believed that talking about the material before writing was a helpful strategy for them personally and what differences they may have noted in their process or writings. Since I used the question sheets only for my own note taking, however, students were free during the interview to elaborate on any area of interest or to shift the focus at any time. The insights I gleaned through these interviews are included in both the students' qualitative profiles and the general discussion of the results of this study.

CHAPTER IV

RESULTS

In this study of the effects of oral rehearsal as a pre-writing strategy for high school students with difficulties in retrieval I used a repeated measures design. Each student's writing was evaluated and compared in two conditions, with rehearsal and without rehearsal. In order to control for possible effects of the two passages used as stimuli for the writing and of the order in which treatment occurred, the twenty-eight adolescents who participated in the project were sorted randomly into four groups that were then counterbalanced for text selection and order of treatment. A (2 X 2) X (2) factorial design with Passage ("Teenagers in the Market" vs. "Career Choices") and Order of Treatment (Without Rehearsal/ With Rehearsal vs. With Rehearsal/Without Rehearsal) as between-subject variables, and Condition (Without Rehearsal vs. With Rehearsal) as within-subject variable was used to evaluate the changes in the written products composed in this project.

The purpose of this study was to examine the changes that occurred in writing when students spoke about material they had read before composing rather than writing immediately after reading a stimulus text. More specifically, I was interested in comparing the written products to determine whether and how change took place at the levels of quantity, complexity, content, and quality. In order to evaluate the writings in a broad enough manner to explore these levels, I selected measures that would examine the compositions in terms of fluency, word choice, sentence structures, content, and discourse. To provide this range of information, eight measures were chosen to make comparisons in the writings. At the level of Quantity the

measures chosen were: (1) the Number of Words Written, to ascertain fluency, and (2) the Number of Different Words used, to evaluate the diversity of word choice and to screen for repetitions and fillers. In order to consider Complexity, the measures were (3) the Percentage of Complex T-units in the writings, to examine how connections between ideas were delineated, and (4) the Percentage of Correct Complex T-units in the writings, to gauge differences in intrasentential coherence and the grammatically correct expression of ideas. At the level of Content, the selected measures were (5) the Material Score, representing the number of major ideas from the source material included accurately in the writings; (6) the Reaction/Elaboration Score, indicating the number of subject-appropriate elaborations and reactions to the ideas contained in the text; and (7) a Content Total score (the sum of the Material and Reaction/ Elaboration Scores), reflecting both the ideas from the material and the student's additional thoughts. The sole Quality measure was (8) an overall Holistic Score. While this score assessed primarily the organization and content of each composition, it also served to indicate overall effectiveness.

Analysis of data gathered on each of these measures involved three stages. First, descriptive statistics were computed. Second, relationships among the variables were investigated through the analysis of intercorrelations. Finally, a series of repeated measures factorial ANOVAs were used to evaluate treatment effects.

<div align="center">Descriptive Statistics</div>

In order to make direct comparisons between results from each measure in the two conditions (with rehearsal and without rehearsal), mean values and standard deviations were calculated for each. Table 4 provides an overview of the descriptive statistics for the eight variables, providing an opportunity for comparison of results. Note that in the table there are positive

Table 4– Comparisons of Means and Standard Deviations for analysis of measures of quantity, complexity, content, and quality of writing produced in two conditions: with rehearsal and without oral rehearsal.

	Without Oral		With Oral	
	Mean	SD	Mean	SD
Number of Words	135.8929	77.8438	179.8214	79.7246
Number of Different Words	80.2143	34.5386	97.6786	31.7444
Percentage of Complex T-Units	67.1786	20.3070	80.0714	15.6653
Percentage of Correct T-Units	39.7500	19.3153	64.9286	16.3819
Material Score	2.8750	1.7031	3.3393	1.3544
Reaction/Elaboration Score	1.5000	0.7935	2.5357	0.9993
Content Total Score	4.3750	2.1414	5.8750	1.7354
Holistic Score	2.8929	1.2792	3.3393	1.2099

changes on all eight measures as a result of the oral rehearsal treatment. The probability of such increases in the means for all eight occurring by chance is less than .004. Clearly something of importance is taking place in the oral rehearsal condition.

Correlations

Once the descriptive statistics are examined, the question arises about the ways in which the findings for each individual measure are interconnected to the others. The computation of correlations among the variables in this study gives insight into the relationships linking different aspects of the writing. The following tables provide an overview of the correlations found among independent measures in the two conditions, with and without rehearsal, and provides a basis for delineating clusters deserving of attention. Table 5 summarizes the intercorrelations of the variables investigated in the

first condition, without rehearsal. The length of the students' writings (Number of Words) is significantly correlated with the diversity of their vocabulary usage (Number of Different Words) at .96 (p< .0001) Both these variables are in turn related to the scores (p < 0.0001) that they received for all the

Table 5--Rank correlations and significance levels of those correlations among variables in Condition 1 (without rehearsal).

	Number of Words	Number Different Words	Complex T-Units	Correct Complex T-Units	Material Score	Reaction Score	Content Score	Holistic Score
Number of Words	1.000 0.0	0.961*** 0.0001	0.068 0.731	0.241 0.216	0.776*** 0.0001	0.704*** 0.0001	0.878*** 0.0001	0.835*** 0.0001
Different Words	---	1.000 0.0	0.015 0.936	0.207 0.291	0.748*** 0.0001	0.688*** 0.0001	0.850*** 0.0001	0.893*** 0.0001
Complex T-Units	---	---	1.000 0.0	0.473* 0.011	0.125 0.527	0.082 0.680	0.130 0.511	-0.051 0.798
Correct T-Units	---	---	---	1.000 0.0	0.325 0.092	0.318 0.099	0.376 0.049	0.320 0.097
Material Score	---	---	---	---	1.000 0.0	0.391* 0.040	0.940*** 0.0001	0.691*** 0.0001
Reaction Score	---	---	---	---	---	1.000 0.0	0.681*** 0.0001	0.620*** 0.0004
Content Score	---	---	---	---	---	---	1.000 0.0	0.779*** 0.0001
Holistic Score	---	---	---	---	---	---	---	1.000 0.0

*indicates significance at the $p < .05$ level, **at the $p < .01$ level, and ***at the $p < .001$ level.

Content categories (Material, Reaction/ Elaboration, and Content Total) and for the Holistic rating. By writing at greater length, the students had the opportunity to reflect more ideas and to be more effective in conveying their thoughts. There is no significant correlation of any of these variables with the Percentage of either Complex T-Units or Correct Complex T-Units. The Percentage of Complex T-Units and the Percentage of Correct (Complex) T-Units were, as would be expected, intercorrelated (.47) with each other (p< .011).

The correlations among variables in the second condition, with rehearsal, are shown in Table 6. These intercorrelations follow much the same pattern as in the first condition, with a few noticeable shifts. While the

Table 6. Rank correlations and significance levels of those correlations among variables in Condition 2 (with rehearsal).

	Number of Words	Number Different Words	Complex T-Units	Correct Complex T-Units	Material Score	Reaction Score	Content Score	Holistic Score
Number of Words	1.000 0.0	0.928*** 0.0001	0.030 0.880	0.006 0.976	0.570** 0.002	0.612*** 0.0005	0.797*** 0.0001	0.621*** 0.0004
Different Words	—	1.000 0.0	-0.046 0.817	-0.043 0.827	0.548** 0.003	0.539** 0.003	0.738*** 0.0001	0.580*** 0.001
Complex T-Units	—	—	1.000 0.0	0.664*** 0.0001	-0.019 0.925	0.012 0.953	-0.008 0.968	0.063 0.750
Correct T-Units	—	—	—	1.000 0.0	0.321 0.096	-0.034 0.865	0.231 0.237	0.431* 0.022
Material Score	—	—	—	—	1.000 0.0	0.066 0.739	0.818*** 0.0001	0.628*** 0.0003
Reaction Score	—	—	—	—	—	1.000 0.0	0.627*** 0.0004	0.350 0.068
Content Score	—	—	—	—	—	—	1.000 0.0	0.691*** 0.0001
Holistic Score	—	—	—	—	—	—	—	1.000 0.0

*indicates significance at the $p < .05$ level, **at the $p < .01$ level, and ***at the $p < .001$ level.

Number of Words and the Number of Different Words in the compositions continue to be correlated to the Material, Reaction/Elaboration, Content, and Holistic Scores, the relationships are not as strong as in the first condition. In contrast, the correlation between the Percentage of Complex T-Units and the Percentage of Correct Complex T-Units is slightly stronger (.66) when students rehearse before writing than it is when they did not (.47). In the "with rehearsal" condition the correlation between the Percentage of Correct Complex T-Units and the Holistic Score is slightly more pronounced as well.

The students' improvement in syntax evidently influences the overall coherence and effectiveness of their writing in a positive manner.

Analysis of Variance

In order to ascertain the significance of any changes in the compositions written in the two conditions, with and without rehearsal, the final stage of data analysis consisted of the computation of a repeated measures analysis of variance (ANOVA) for each of the variables under scrutiny in this study. Data on the intercorrelations of the independent variables suggested the existence of clusters among these variables that should be examined as units. Within each of these clusters one measure generally provided the most significant information about the overall effects of the treatment. In the area of Quantity the principal measure was considered to be the Number of Different Words. In Complexity, the Percentage of Correct Complex T-Units was the primary measure. The Content Total Score was the chief concern in the Content area, while the Holistic Score was the singular measure for Quality. In a second stage analysis the additional measures (the Number of Words Written, the Percentage of Complex T-Units, the Material Score, and the Reaction/Elaboration Score) were examined as well in the context of their cluster for further insight.

Quantity

Both the Number of Words Written and the Number of Different Words used in the compositions are considered measures of fluency for the students with retrieval/word-finding difficulties. Given the nature of the participants' language issues, the results of the Number of Different Words analysis were considered the more significant to this study. Table 7 reports the results of the ANOVA in this area. It is evident from these data that students' lexical choices were significantly more diverse (p = .011) in the compositions written in

the second condition than in the first condition. The mean for Different

Number of Words was 135.8 without rehearsal and 179.8 with rehearsal. This

provides a clear indication that students were not simply reusing the same

words or relying on more fillers. Rather, their usage of a more diverse

vocabulary suggests increased recall and use of a broader range of words.

Table 7: Results of the Analysis of Variance of the Number of Different Words Without (Condition 1) and With (Condition 2) Oral Rehearsal

Source	df	Sum of Squares	Mean Square	F	p
order of treatment	1	4165.8750	4165.8750	2.647	0.117
passage	1	62.1607	62.16071	0.039	0.844
order x passage	1	3165.0179	3165.01786	2.011	0.169
ERROR	24	37769.2857	1573.72024		
treatment	1	4270.0179	4270.01786	7.656	0.011**
order x treatment	1	396.4464	396.44643	0.711	0.407
passage x treatment	1	244.4464	244.44643	0.438	0.514
order x passage x treatment	1	228.0179	228.01786	0.409	0.529
ERROR	24	13385.5714	557.73214		
Total	55	63686.8393			

*indicates significance at the $p < .05$ level, **at the $p < .01$ level, and ***at the $p < .001$ level.

In a second stage comparison, an ANOVA was also completed on the

Number of Words Written data to determine if students wrote at greater

length as well as with increased lexical fluency. Results of this ANOVA

indicate that the subjects did write significantly more ($p = .004$) when they had

the opportunity to talk before writing. In Condition 1 (without rehearsal)

essays varied from 21 to 374 words with a mean of 80.2 words; in Condition 2

(with rehearsal), the range was 65 to 389 words with a mean of 97.7 words.

There were no significant interactions apparent in the analysis of text choice or order of treatment in either of the ANOVAs in the area of Quantity. For students who struggle with retrieval/word-finding, the willingness and ability to continue composing at greater length and to choose different words to express thoughts are important factors in writing.

Complexity

Analysis of variance was also used to evaluate the effects of treatment in the area of Complexity. Table 8 details the results of the ANOVA. The use of complex sentence structures demonstrates the ability to place thoughts in relation to each other rather than relying on simple sentences or linking ideas only with coordinate conjunctions. Because the correct use of complex sentence structures marks a decided weakness in the writing of most learning

Table 8 Results of the Analysis of Variance of the Percentage of Correct Complex T-Units Without (Condition 1) and With Oral Rehearsal (Condition 2)

Source	df	Sum of Squares	Mean Square	F	p
order of treatment	1	0.0679	0.06790	1.798	0.192
passage	1	0.0522	0.05222	1.383	0.251
order x passage	1	0.1161	0.11612	3.075	0.092
ERROR	24	0.9062	0.03776		
treatment	1	0.8875	0.88754	48.687	0.0001***
order x treatment	1	0.0148	0.01479	0.811	0.377
passage x treatment	1	0.0386	0.03859	2.117	0.159
order x passage x treatment	1	0.0986	0.09862	5.410	0.029*
ERROR	24	0.4375	0.01823		
Total	55	2.6195			

*indicates significance at the $p < .05$ level, **at the $p < .01$ level, and ***at the $p < .001$ level.

disabled students, the changes noted in the analysis of variance of the Percentage of Correct Complex T-Units are of primary importance. With an F value of 48.687, these data reflect significant effects of the treatment at a p level of $< .0001$. The minimum percentage of Correct Complex T-Units in Condition 1 was 0%; in Condition 2 it was 32%. The maximum percentage was 80% if students did not rehearse (Condition 1). When they did talk before writing (Condition 2), the maximum was 100%. An interaction of Condition*Order of Treatment*Passage (Text) was considered significant ($p = .029$) in the analysis of variance for Percentage of Correct Complex T-Units. Computation of the omega squared statistic for the treatment variable determined that 62% of the total variance in this ANOVA was accounted for by the treatment. As a result, the 8% accounted for by the interaction of Condition*Order of Treament*Passage seems less important by comparison.

To investigate further what caused the Percentage of Correct Complex T-Units to vary significantly between the two conditions, I also completed a repeated measures ANOVA to compare the Percentage of Complex T-Units with and without rehearsal. The results show a significant increase in this measure as well (F = 13.777, $p < .001$) when students rehearse before composing. Thus, students not only were more correct in their syntactical decisions, but they also increased their use of complex sentence structures. In this analysis of variance a significant interaction ($p = .007$) was again noted, however, between the Passage ("Teenagers in the Market" or "Career Decisions") and the Condition. The omega squared statistic in this case determined that 28% of the total variance was accounted for by the treatment while 17% was due to the interaction of Passage*Condition.

Content

The principal means of investigation into the thoughts contained in students' compositions involved the Content Total Score. A composite of the Material and Reaction/Elaboration Scores, this score is important to consider because it gives an overview of the number of major ideas, whether from the stimulus text or from the mind of the writer, contained in each composition. The analysis of variance of the Content Total Scores (see Table 9) reveals significant effects of the treatment (F = 20.55, $p < .0001$) on the students' inclusion of major ideas from the text or in response to the text as well as appropriate use of vocabulary from the text. There were no significant interactions between any of the independent variables noted in this ANOVA.

Table 9: Results of the Analysis of Variance of the Content Total Without (Condition 1) and With (Condition 2) Oral Rehearsal

Source	df	Sum of Squares	Mean Square	F	p
order of treatment	1	10.2857	10.28571	1.713	0.203
passage	1	0.0000	0.00000	0.000	1.000
order x passage	1	9.4464	9.44643	1.573	0.222
ERROR	24	144.1429	6.00595		
treatment	1	31.5000	31.50000	20.551	0.0001***
order x treatment	1	1.4464	1.44643	0.944	0.341
passage x treatment	1	0.4464	0.44643	0.291	0.594
order x passage x treatment	1	2.5714	2.57143	1.678	0.208
ERROR	24	36.7857	1.53274		
Total	55	236.6250			

*indicates significance at the $p < .05$ level, **at the $p < .01$ level, and ***at the $p < .001$ level.

In order to understand more fully the changes thus evident in the area of Content, two more ANOVAs were completed in relation to the Content Total

Score's component parts, the Material and Reaction/Elaboration Scores. The ANOVA completed in relation to the Material Score reveals no significant increase ($p = .104$) in number of ideas found in the stimulus text that were subsequently recorded in students' compositions. While the slight increase that is evident in the data is not of statistical significance, its presence remains reassuring since it does ensure that there was no decrease. Hence, students who rehearsed before writing were no more vulnerable to becoming distracted by tangential thoughts and did attend to the ideas in the passage at least as well as those who did not orally rehearse.

The analysis of variance in the Reaction/Elaboration Scores reveals a much different pattern of change between Condition 1 and Condition 2. Effects of the treatment on students' ability and willingness to respond in writing to the ideas of the stimulus texts are considered significant ($F = 30.77, p < .0001$). The increase in the number of reactions to, elaborations on , and applications of what they read gives some indication of the subjects' involvement with the topic and of their ability to articulate responses. An interaction of Condition* Order of Treatment*Passage (Text) was again noted and considered significant ($p = .046$) in the Reaction/Elaboration Score analysis of variance. The omega squared statistic revealed that 48.9% of the total variance was due to the treatment while only 4.2% was accounted for by the interaction.

Quality

To judge the overall organization and effectiveness of the compositions written in the two conditions, with and without rehearsal, the final assessment was an Holistic Score. Again, the analysis of variance (See Table 10) shows significant effects ($p = .034$) of the treatment in this area. Talking about the material in the article (more specifically: making generalizations, suggesting

Table 10: Results of the Analysis of Variance of the Holistic Score Without (Condition 1) and With (Condition 2) Oral Rehearsal

Source	df	Sum of Squares	Mean Square	F	p
order of treatment	1	8.2545	8,25446	3.482	0.074
passage	1	0.7545	0.75446	0.318	0.578
order x passage	1	1.9687	1.96875	0.831	0.371
ERROR	24	56.8929	2.37054		
treatment	1	2.7902	2.79018	5.054	0.034*
order x treatment	1	0.7545	0.75446	1.367	0.254
passage x treatment	1	1.2902	1.29018	2.337	0.139
order x passage x treatment	1	0.5402	0.54018	0.978	0.332
ERROR	24	13.2500	0.55208		
Total	55	86.4955			

*indicates significance at the $p < .05$ level, **at the $p < .01$ level, and ***at the $p < .001$ level.

reactions, identifying key ideas, supplying details, and giving personal examples of ways to use the ideas) before writing evidently contributed to the students' ability to convey their thoughts in a coherent, effective manner.

CHAPTER V

QUALITATIVE PROFILES

"A student learning to carry out a new literate act

may be standing in the eye of a hurricane."

(Flower, 1994, p. 34)

Through many years of attempting to teach high school students how to write effectively, I have watched them struggle to avoid being swept away by the lashing winds of Flower's "hurricane." Some students are eventually able to withstand the pressures of the forces swirling around them. In the best scenario, they can even draw on these surging elements of understanding and expertise to enlighten and enliven their writing while they calmly compose in the hurricane's eye. Others are not so adroit. Although they may sit quietly at their desks, their hesitancies, starts, and stops reflect the conflicts and confusion deluging their minds. Uncertain of their own knowledge and unskilled in the task of combining thought and language to make meaning in writing, they venture too close to the edge of the calm. Before they realize their mistake, they are carried away by the conflicting winds and overwhelmed by the myriad forces demanding motor coordination, word knowledge, spelling expertise, sentence formulation, organization of their thoughts, and coherent self-expression. Their response may well be to retreat, either producing nothing or staying within the *safe* zone of unprocessed words and information.

At high risk for retreat from the hurricane's forces are students with difficulties in retrieval. The students who participated in this study clearly illustrated this weakened ability to recall precise words on demand in their pre-testing. The frustrations they experienced every day in classrooms were

evident as well in their comments throughout the project. It was apparent both in their words and in their actions that writing had become a burden much of the time. When the struggle to find appropriate words for expression becomes overwhelming, writing is not the strategic and constructive action Flower (1994) envisions. Desperate to complete an assignment, these students had often stopped viewing writing as communication. Rather, putting words on paper often became simply that and not a personal statement of belief and understanding from the writer to the reader. Nor was shared understanding or action the anticipated result.

My intent in completing this project was to investigate a method of helping these students cope with the swirling, unrelenting demands of writing in such a way that composing could indeed become a means of making and communicating meaning. I wanted to evaluate whether and how oral rehearsal could serve to prepare this group of students to write by alleviating some of the difficulties they often experienced in attempting to compose. I hoped oral rehearsal would increase both cognitive and social supports in the pre-writing phase, helping them comprehend what they read and strengthening their subsequent writing. To examine just how effective oral rehearsal was in assisting individual students in their efforts to avoid the confusion of the hurricane, it is necessary to look beyond the numbers and to explore some responses more specifically through student profiles.

Entering with diverse academic skills and expectations, the five students whose profiles are included in this chapter are representative of many others. These were chosen because their individual responses to the project illustrate a broad range of possible reactions to the use of oral rehearsal as a pre-writing strategy. In this chapter the process students followed can be traced on a personal basis, and the reasons for variations in students' final

written products can be understood more fully. The insights that individual reactions provide can then be incorporated into suggestions for instruction.

To evaluate the changes in any particular student's written products, I used a criteria of several factors: *accuracy, clarity, fluency, coherence,* and *voice. Accuracy* simply refers to whether the information from the stimulus article was quoted or used in a manner consistent with the facts presented. *Clarity* is concerned with how understandable the writer's point is to the reader, whether the words convey the author's intent. *Fluency* involves the writer's ability and willingness to generate words, sentences, and idea units in a steady, unbroken fashion. Increases in the numbers of these items included in the compositions serve as an indication of greater *fluency.* These three terms, *accuracy, clarity,* and *fluency,* are relatively straightforward in application here.

Coherence and *voice,* on the other hand, are somewhat more nebulous and require definition as to how they are utilized in this account of changes in writing. Brostoff (1981) suggests three levels to *coherence* that can be helpful in this discussion. The first of these, logical relationships, is reflected in patterns, topical links from one sentence to the next. The second, an overall structured sequence, involves the combination of several patterns to create a complex hierarchy in the text that results in a unified view of the topic. The third and highest level of coherence, cues to structure, entails the use of key words and transitional expressions that make the author's intent and the unity of the text apparent to the reader. The students in this project often experienced difficulties with all three of these levels of *coherence,* but some were more adept than others at linking their thoughts effectively.

Perhaps the most difficult, and the most controversial, aspect of writing to define is that of *voice.* As a result, I will draw on Otte's (1995) suggestion that the context itself needs to be carefully examined in any consideration of

what *voice* might mean. It is his view that how a *voice* is adopted or modulated for a particular scenario depends on choice and craft rather than on truth or sincerity per se. This seems to be especially appropriate when the writing involved is a content-based summary/response rather than a personal narrative. The term *personal* that is used here might most immediately evoke the sense of autobiographical content or emotional appeals. Although not excluding this meaning entirely, I am using *personal* in this discussion to describe writers' efforts to construct their own individual understanding. While it remains critically important that the "speaking self" continue to have "credibility and force" (p. 152), in a project such as this one *voice* relies to a large extent on the effectiveness of the relationship the writer is able to establish with the audience and to what degree the reader is able to believe what the author has to say. The writer must give the reader markers of this relationship. One example of this would be a shift to direct address. To convince the reader that one's words about a content-based topic are credible, the writer needs to integrate carefully and precisely facts from the stimulus text within a personal viewpoint. To recount the information from the original source is not sufficient alone. Rather, the writer needs to internalize and integrate the facts from the article and then shape the message so that the now absent listener becomes a present reader.

Given the nature of the task in this project, the presence of *voice* depends on a clear understanding of the stimulus text, either "Teenagers in the Market" or "Career Decisions" (Appendix, pp. 202-205), but it goes further as well. The student writers must form their own responses to the information and convey their views effectively to the reader. Personal engagement with the material from the article contributes to this reformulation of the original information within an internal, individualized framework. The writers' words

must take on a tone and a style that are appropriate to the subject matter and to their audience. In choosing their words, writers also shape the reader's understanding and reactions.

Markers of a developed voice might thus include an individually constructed framework to convey one's viewpoint and responses, precise and forceful word choices, a personal tone that addresses the reader directly or indirectly, and the use of stylistic or rhetorical devices. In combination, these elements contribute to a greater overall sense of ownership and authority. The "credibility and force" that are needed come from the resulting sense of mastery of the subject matter combined with the confidence that the writer's responses deserve to be valued. Thus, *voice,* as it is used in this exploration, represents the integration of a strong informational base with a personal, persuasive approach that conveys a valuable perspective as well as the facts to the constructed reader.

The student participants in this project were all interesting and unique in their responses. As a result, it was difficult to choose just five to illustrate the tendencies evident in all to varying degrees and in differing combinations. These five all benefited from oral rehearsal in some way although they were not always aware of the changes that it actually fostered in their writing. It is important to recall that most of the students who agreed to participate were not those who loved to write. The difficulties they all shared with retrieval were substantial and for many of them had contributed to a fear of both oral and written expression over the years.

Whether their initial difficulties were primarily in the areas of *accuracy, clarity, fluency, coherence,* or *voice,* Josh, Lynn, Mindy, Evan, and Alex all wrote differently after rehearsing orally. A comparison between what they composed when asked to complete the typical summary/response immediately

after reading and what they wrote with oral rehearsal highlights those differences. Josh, a severely dyslexic young man, is the first student profiled. Of the five, he struggled the most with the actual production of written text. Lynn, a confident senior, and Mindy, a reticent sophomore, are the second and third participants portrayed here. Paired for the second oral rehearsal, their existing difficulties with comprehension and/or coherence make the effects of their interactions particularly interesting. Evan, a dynamic role-player in non-academic settings, was the fourth student profiled. While he reflected his enthusiasm in his writing only after he talked, he was not always aware of how these changes came about. The final profile is that of Alex, an introspective senior who started this project with the most self-knowledge and the greatest written fluency. It is particularly thought-provoking to see how his use of previously-developed personal strategies was affected by talking before writing. Getting to know all these students and how they reacted to each step in this process will enlighten later discussion of the effects of oral rehearsal as a pre-writing strategy for high school students with difficulties in retrieval.

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Profile 1: Joshua

A portrait of Joshua seems replete with contradictions. On first meeting his appearance is striking. A burly eighteen year old with curly blonde hair pulled back in a short pony tail, Josh wears a black leather vest to complement a purple and white tie-dyed tee shirt with a prominent Harley-Davidson emblem. A single silver dagger earring hangs from his left ear. A black leather studded wrist band together with a ram's head tattoo on his forearm rounds out the impression of a young man whose interests lie primarily in a rough and tumble world outside of school. When he tells you about his favorite pet, a six-foot snake who (until his untimely demise) kept trying to swallow the family cat, the image is strengthened.

When he becomes comfortable in a conversation or in a school situation, however, a very different Josh emerges. This Josh is a warm and humorous young man who has managed to cope with significant learning disabilities and medical problems that continue to threaten his very existence. This is a gentle, considerate soul whose sensibilities have been formed largely by years of watching Nova nature programs on public television and by a lifetime of humorous bantering with his mother and younger siblings. As he strides across the classroom or shifts strategically in his seat, a slow grin often spreads across his face. His low-key, self-deprecating humor helps Josh maintain strong relationships with a wide range of students and teachers. He has earned their respect for the strong person he is and the effort he puts into his studies.

In order to be successful in high school Josh has had aide or teacher support in all his academic classes and modifications have been made as needed. While his conceptual abilities are quite strong, his performance in the

mainstream has been significantly affected by weak reading and writing skills. It is clear in working with Josh that he is severely dyslexic and that fatigue further complicates his learning process. Since he is unable to take readable notes independently in his classes, Josh relies on the aide to take down important information. Any grade level reading assignments or course tests must be read to him. Although he has been highly successful in his Auto Body class because of the hands on approach, fatigue is also an issue in a work setting.

In the area of writing the discrepancy between Josh's ability to conceptualize and his capacity to express his thoughts clearly and completely is particularly evident. Josh is very willing to write essays when they are assigned in a class, and he is able to structure a coherent sequence of information that reflects genuine insight. The process he must follow to do so is a complex one, however, and generally requires close work with a teacher or an aide. Often he spends time talking over what he wants to say before he begins to write because he needs to be sure he has understood the text or class presentation accurately. He may also have many questions which need clarification about the assignment itself. Until he understands what is expected of him, Josh often has difficulty knowing how to start. As he talks about his ideas in relation to the topic, he will frequently glance quizzically at the teacher to be sure his thoughts are well-received and that he is "on track." Before putting pencil to paper, he will often ask for a sample of an appropriate response. "How do you start something like this?" he might say.

As Josh begins to write sometimes, if the thoughts begin to flow quickly, the teacher may simply act as a scribe. On most occasions, however, once he has talked about the information, Josh works independently to write his first draft. Later, of course, his work must be translated by someone familiar with

his handwriting and spelling before it can be turned in to his teacher. It is important that he not wait until he has written too much or he may not recall what he was trying to say. In short, Josh follows through a lengthy process whenever he writes, and the support services he receives seem to be critical to his ability to write essays successfully. Despite the assistance he requires along the way, the end product is written in Josh's words and (judging by his teachers' reactions) tends to be of high quality in terms of overall coherence, content, and insight.

As Josh began his participation in this project, I was particularly interested in getting a clearer sense of what types of assistance made the greatest difference for him in terms of writing success, to ferret out more specifically what changed because of the interventions that were made and how those shifts came about. I also hoped to learn about the relationship between his language difficulties and elements of the writing process. From observation I had learned that it was not simply a matter of visual processing or handwriting limitations that made writing stressful for Josh. Although he seemed to have an idea to convey, he would have trouble putting his thoughts into words. His vocabulary would be vague at first, even when he spoke, relying on the listener's knowledge for more specific interpretation. Speaking in generalizations, he was often unable to define clearly or to describe in detail the subject he wished to discuss. When he did find the right words to convey his meaning , he would then have to hold them in memory long enough to figure out how to write them. The exact nature of the interplay between language generation, memory, and writing proficiency for Josh was never entirely clear to me, however. Whether he could not figure out appropriate words or could not remember them long enough to write remained questions. Just recalling how to form the letters and spell the words could be a challenge for him. I hoped this

process would provide insight into what would work more effectively for him as Josh attempted to put his thoughts into written form.

<u>Standardized Pre-testing</u>

A dichotomy similar to that between his appearance and his sensibilities, as between his literacy skills and his thinking abilities, was evident between Josh's receptive and expressive language abilities in the pre-testing for this project. On the <u>Peabody Picture Vocabulary Test-Revised</u> (Dunn & Dunn, 1981) Josh was quite able to choose one picture out of four that best illustrated a word that was presented orally. His standard score of 98, at the 45th percentile for his age, is indicative of receptive vocabulary knowledge solidly in the average range. In completing this test Josh demonstrated knowledge of words such as *trajectory, indigent, fettered, arrogant,* and *incandescent.* In addition, he was able to relate other difficult words to more familiar ones to deduce their meanings.

Josh's performance on the <u>Boston Naming Test</u> (Kaplan, Goodglass, & Weintraub, 1983), which requires the student to view a picture and retrieve the name of the object quickly, was quite different, however, and his score of 49 on this test indicates retrieval skills below the mean for his age and schooling. Even on the items which Josh named correctly within 20 seconds, there were frequently confusions or significant delays, or he might talk a bit about the item before arriving at the name. On first seeing a picture of a harmonica, for instance, he replied that it was a "harp." Later in the test he caught his own mistake when he was actually shown a drawing of a harp. "Oh, the other one was a harmonica!" he noted. When asked to identify a picture of a compass, Josh responded that it was the "thing you draw circles with." Sometimes he also started the process of figuring out an object by saying what it was not, as when he noted that an artist's palette was "not a canvas." Given a phonemic

cue of the first sound of the harp, compass, and palette, however, Josh was able to name them accurately. He was successful on approximately 60% of the items he had missed earlier when given such a cue. Difficulties similar to those on the <u>Boston Naming Test</u> were evident on the Divergent Production subtest of the <u>Fullerton Language Test for Adolescents</u> (Thorum, 1986). Josh's ability to list spontaneously items within given categories was measured at approximately two standard deviations below the mean. Josh was significantly slower in generating individual items of all the types requested than most students his age. This suggested that he would have trouble thinking of the right words to express his thoughts when writing. It might also mean that Josh would experience difficulty understanding what he read immediately after decoding the words. Since the generation of words and of ideas seemed to be a real concern in the pre-testing, I was curious how oral rehearsal would affect Josh's fluency and coherence as he wrote.

<u>Writing Without Rehearsal</u>

How these difficulties with quick and accurate retrieval might affect Josh's writing and whether oral rehearsal might prove an effective pre-writing strategy became more apparent as he progressed through the stages of the project. A member of Group C, Josh's first task was to listen to a reading of Text 2 ("Career Choices") and to write a draft summary and response without talking through its contents with anyone. After being given the text and read the article, Josh started writing fairly quickly. Within eight minutes he had filled half a page of notebook paper, skipping every other line as is his custom. He then asked one brief question about how to give personal examples of ways he might use the information (item #5 on the list of elements to remember in writing a summary/response) and continued to write for another five minutes

(for a total of thirteen minutes) before quitting. Once corrected for spelling, his draft reads as follows:

> *It's about how hard it is to get a job without an education. I think that*
>
> *the person is right he is trying to say that it is hard to find a job that*
>
> *you need an education. The article helps you to understand what*
>
> *happens if you don't have a good education.* (53 words)

Josh stopped to read his draft aloud so I could spell the words correctly, and then he quietly left the room.

When he returned for a second session, Josh was asked to rewrite his draft, evaluating how well he had attended to the elements needed in a summary/response and adding information or reorganizing as appropriate. On being presented with the task and a clearly written copy of his first draft, Josh stared at the paper for a moment and heaved a sigh before taking his pencil in hand. Cooperative student that he is, he started out in spite of any frustration he might have felt. He wrote steadily for ten minutes, and then quit. When asked if that was all he wanted to say, Josh replied, "That's all I got out of it." His rewrite was even briefer than the original:

> *The article is about how hard it is to get a job and what the requirements*
>
> *you need to succeed in finding one. He tried to help you understand the*
>
> *importance of a good education.* (35 words)

Josh paused briefly to help decode his writing and then left without any further comment.

Asked later about the process he had gone through to compose his essays, Josh revealed how uncomfortable he had felt with writing directly after hearing a reading. To organize his writing he said, "I just kinda picked things out, and guessed where to put things." As it was his first experience with the list of items to *Remember* to include, he did not feel that he understood it well.

As a result, Josh did not include many of the key ideas or details of the text in his writings. He responded only to the need for a good education when, in fact, the focus of the article is on the various questions to consider in choosing a career and where to find information to guide the process of investigating options. Rather than stressing only education, it points out that only one in four careers will require college. Although he had tried diligently to include all the items on the list of instructions I had given, Josh was not entirely accurate in his recounting of the information in the article. Instead of reflecting on the more complex suggestions for identifying interests and opportunities, Josh simply noted how important an education is, a point that he had frequently heard in connection with careers. Using a valuable comprehension strategy, Josh added his own feelings about how hard it is to find a job to link what he already knew to the reading. In spite of the length of time he took to compose, Josh's sentences are not always complete or punctuated appropriately. Even when he revised his writing, Josh did not catch his errors. His investment in this writing seemed low despite his conscientious nature.

Writing With Rehearsal

Josh's reaction as he began the second phase of the project was very different. Although I read Text 2 ("Teenagers in the Market") to him as I had the first one, my asking him to tell me about the article immediately made him more comfortable. His first comments betrayed his surprise at "how much students spend." Commenting that they must not be like him, Josh noted, "I'm working and it doesn't seem I make, like, any dent." Then he went on to say that the author said there were four groups of kids. To explain the group with more *solitary* activities (a word he had trouble pronouncing from the written text), he went on to say that meant "not having contact with too many people." When prompted to talk about the other groups, Josh admitted he

recognized teenagers who would fit in the *socially driven* category, but added with a laugh that he would not mention any names.

After describing the characteristics of the first group, Josh went on to speak about the *diversely motivated* kids. Although he could explain "motivated" well in relation to his working hard every day in Auto Body because he liked it so much, Josh asked what "diversely" meant and I explained. The term *socioeconomically introverted* given to another group seemed to intimidate Josh, making him less comfortable with talking about them until he figured out that they were the ones who were more *solitary*. He perked up again, however, when he got to the *sports oriented* group; "They spend millions...well, not millions...they spend a lot on football, basketball equipment. Even if they don't play sports, they spend money on stuff like roller blades for activities. Sneakers." Josh knew more kids in that group.

When asked what he thought about the article, Josh was hesitant to accept its point of view because it was not his experience to have such money to spend. Insightfully, he noted that the article was written in 1988 and commented that if it had been written now when jobs were harder to find, the information might well have been different. Although he was placed in an auto body internship position through the school, Josh brought up his brother's frustrations in trying to find a job as evidence of the more difficult economy. Continuing along this line, Josh talked about the role of the marketing researchers and why information like that in the article is gathered. He clearly understood the relationship between the teenager's desires for particular products, advertising, and what items are stocked in stores. Admitting that he understood the article fairly well, Josh then proceeded to write his first draft.

Josh's introductory sentence starts out very differently in tone from his first essay, *This article I thought was interesting in some of the points it was*

trying to make. Rather than simply writing, *It's about...*, he begins with his reaction and acknowledges that several points were made in the text. Josh quickly establishes himself as the authority commenting on the article. As he continues the sentence, *but the interesting part was how much students spent every year,* he gives a sense of how thought-provoking the information the article contained is for him. Before he ends the sentence, Josh lists three areas that were explored in the text, *...on certain things that they are interested in or the way their life styles are and how that ties into the businesses like sports stores.* In so doing he demonstrates his understanding of the intent of the article and the significance of the information. Josh wrote this first, complex sentence in approximately eight minutes, very fluently considering his graphomotor difficulties. He paused only once, long enough to ask whether "that" was "per year." When I responded with a quizzical expression, he clarified, "The money." With my assurance that it was he quickly returned to writing.

As he began the second sentence, Josh asked, "How many groups were there...three?" Referring him back to the article, I noted that there were four groups. Although he does not acknowledge the author by name, Josh is aware of his role as he starts out writing again, *He also names four groups.* To clarify, he adds, *and these are the people that are spending money on their life styles.* In this part of the sentence Josh utilizes several rather sophisticated structures, achieving emphasis with the use of *these are,* and describing the people with a relative clause. Tacking on another complete sentence by using *and,* he completes his first draft, *and although this article is a little outdated, it has some very good points.* Again, Josh makes an authoritative judgment about the validity of the information in the article based on his own experience. Having completed the writing in fifteen minutes, Josh again paused to translate for me while he could still be sure of the intended words. His demeanor as he left the

classroom was much more lively than it had been after the earlier writings. Josh seemed encouraged by what he had accomplished, and he grinned as he passed through the door.

The preparation for Josh's final copy of his summary/response to the teenager article involved a conversation with another student. As they started to discuss the article, Josh was fairly out-going, sharing his thoughts until the other student mentioned (in response to Josh's observation that the article was somewhat outdated) that he spends much more than the amount quoted per week for the average teenager in the text. While he continued to speak about the article, Josh did not disclose that he found the amount spent to be excessive. He did, however, mention the copyright date and say that with the greater difficulty now finding and keeping a job, there was not really much time to shop. "It's hard to have a lot of free time," he noted, and the other student agreed, but Josh was more reticent about sharing his personal reactions than he had been earlier.

Given a carefully printed copy of his first draft, corrected only for spelling, Josh had noticeable difficulty starting a rewrite. He was so pleased with the original that he was not sure how to make changes without "wrecking" what he had. I suggested that he simply make changes right on the recopied first draft, and then retranscribe the whole thing. He agreed, but once he had figured out what he wanted to add and how he wanted to say it, Josh asked me to print the changes for him so that he could read it and the words would be spelled correctly in his final copy. Encouraged by this process, he had inserted the new information and recopied the first four lines within eleven minutes. As he retranscribed, Josh worked slowly and carefully from the original to get the spellings right, erasing as necessary. He finished the tedious task in nineteen minutes, but seemed satisfied with the results of his efforts. Having added a

few specific details and cleaned up his sentence structures, Josh completed the

following:

> *This article I thought was interesting in some of the points it was trying to make, but the interesting part was that students spent $65 billion every year on certain things that they are interested in or the way their life styles are and how that ties into the businesses like sports stores. It also names four groups that are very typical teenager types and these are the people that are spending money on their life styles. Although this article is a little out-dated, it has some very good points.*

Clearly pleased with his work, Josh flashed another grin and departed. This

time we did not have to spend any time "translating."

<u>Comparisons of Compositions</u>

Josh's reactions to the two very different pre-writing processes which

followed the readings of two short articles give some insight into strategies that

are effective for him. By examining his compositions completed with and

without oral rehearsal, we can make comparisons. In both writings Josh

clearly had difficulty with the spelling of words and with handwriting. When

given the opportunity to talk through what he wanted to say, however, some

significant differences were noted. In a change that was important to

evaluation of his fluency, Josh wrote almost three times as much when he

formulated some thoughts orally before writing. His word choices became

more precise, mirroring the language of the original text. When he points out

the existence of four groups in the "Teenagers in the Market" article, for

instance, he elaborates and calls them *typical teenager types* that have

implications for marketing. Although difficulties with retrieval were evident

during the oral rehearsals, Josh was able to repair and to use much more

specific vocabulary in his writing later.

Josh's sentence structures changed as well when his pre-writing process

was altered. In the writing completed without verbalizing first, Josh

punctuates two complex sentences: *The article is about how hard it is to get a*

job and what the requirements you need to succeed in finding one. He tried to

help you understand the importance of a good education. The first of these

loosely links dependent clauses. The sentence becomes awkward and

confusing when several key words that would have established a parallel

structure are omitted, however. While the first sentence starts out *The article,*

the second begins with *He* although no direct reference to the author has

previously been made. The second is a straightforward complex sentence with

little expansion.

By contrast, when he talked before writing, Josh's writing reflects

sentence patterns that evoke more interest from the reader. The first

sentence is lengthy: *This article I thought was interesting in some of the points*

it was trying to make, but the interesting part was that students spent $65 billion

every year on certain things that they are interested in or the way their life styles

are and how that ties into the businesses like sports stores. Rather than starting

out *I thought,* Josh places *The article* first, defining his topic and qualifying it

only afterwards with *I thought* to establish his point of view. Within this first

sentence Josh embeds dependent and relative clauses within each of the two

independent clauses. Although his sentence becomes somewhat long and

clumsy as a result, his use of subordinate clauses serves to maintain his

thought process and to link related ideas. It establishes the cause-effect

relationship between what students spend and how sports stores choose to

market, an idea central to the content of the article. Josh's other two

sentences also use complex sentence structures that draw attention to the

ideas of primary importance. Josh's use of *and these are the people* as the

connection in his second sentence (*It also names four groups that are very*

typical teenager types and these are the people that are spending money on their

lifestyles.) instead of a more mundane *who are the ones* emphasizes the

importance of these groups to marketing strategies. In the last sentence Josh subordinates his concern that the article may be a bit out-dated to his more salient conclusion that it *has some very good points* by the use of a pre-posed dependent clause, lending an air of credibility and authority to his words.

The change in sentence structures is only one of the shifts evident when Josh was able to rehearse before writing. Perhaps the most important difference is in the area of content. In writing about "Career Choices" without being able to talk about it first, Josh reflected two ideas that he would have heard in many other contexts--that jobs are hard to find and that education is important. He omits any references to the author's thoughts about what questions a person should ask, sources that might prove helpful, or even facts about jobs and the job market. In effect, Josh ignores the writer's viewpoint and regurgitates stale information that he feels is *safe*. He seems too timid to wrestle with the apparent contradictions to his view found in the text.

Josh's response to the "Teenagers in the Market" article, written after he had the opportunity to talk over the ideas and use the vocabulary of the article, is quite different in terms of his attention to the content. Not only does he integrate key ideas regarding the four groups of teenagers, their interests, and their lifestyles into his writing, but he also shows *how that ties into the business like sports stores*. In so doing, he ties his own understanding of the article into a much more sophisticated insight about the effects of teenage spending on the market in general. In this composition Josh includes important details from the text (e.g., $65 billion, four groups, business ties), but more significantly, he places those facts into perspective by framing them in his own reaction. The overall effect of this composition completed after oral rehearsal is one of greater coherence and authority because of the improved integration of the stimulus material and the perspective Josh provides with his

words. The increases in content accuracy, clarity, coherence, and voice are likely responsible for the higher holistic score given this composition. While his "Career Choices" essay written without the opportunity to talk earned a holistic score of only "1," this one about "Teenagers in the Market" was given a "2" by both scorers.

Reflections

When we talked later about the whole process of the project, it was apparent that Josh had sensed real differences in his ease with the two pre-writing activities. While he admitted that he had actually preferred the Teenager article anyway because of its "amazing" facts, Josh clearly felt more comfortable and more competent in his writing when he had the opportunity to rehearse before putting pen to paper. He indicated that even his comprehension of the article was enhanced by the chance to talk it through. "If I talk about it, I understand it better. I could remember the discussion, not just the reading," he noted when asked about the difference. Josh pointed out that the discussion helped him particularly to keep writing, that it gave him more ideas. Interestingly, when asked on which first draft he felt he had spent more time, he responded that he had taken longer with the first one (without rehearsal) because he "didn't, like, understand all the stuff I read about" and "spent more time figuring stuff out." In reality, he had spent two minutes less on the writing without rehearsal, but it had clearly taken more effort. "Even though it's not that long, I took more time trying to figure out what I was going to say," he noted. When he talked about the topic before writing, Josh said it was "easier to write about...because I understood it better."

Since Josh clearly preferred rehearsing or discussing orally before writing, we talked more about the conditions that were most helpful. He noted that he was more comfortable talking through the article with me than with

the other student. Pointing out that his reaction might have been different if he had known the other student better before their discussion, he commented that he knew me better and that he was comfortable with teachers in general. With a wry grin he also mentioned that "most of the people I talk to in class are girls," reminding me of his reputation with the ladies. In his conversation with the other student Josh did seem less willing to reveal himself, particularly when he seemed to be at a socioeconomic disadvantage. Josh seemed bothered by having another student around while he was writing. "I like to write alone. I don't like to have people looking at me," he shared, suggesting that he was self-conscious about the process of putting words on paper. "I try to do it in my own little corner," he added. Josh's reaction to his discussion with another student and his sensitivity to writing with one nearby suggest the importance of students having established trusting working relationships before they are expected to be highly successful in rehearsing together without teacher intervention. Without some shared experiences and established mutual respect, students can easily be intimidated when asked to discuss class material and to give personal reactions.

Josh clearly seemed to benefit from the opportunity to talk the subject matter through before writing. Asked to compare his compositions, Josh preferred the written product when he had orally rehearsed. "It was better than that one where I didn't know what I was doing," he commented. When asked what he liked best during the entire project, he mentioned that he enjoyed the articles. He liked that he had an opinion about them. Asked what he disliked most, the answer was more predictable and emphatic--"Writing." In spite of his conditioned response to the request to write, Josh was relatively prolific in this setting when given the opportunity to prepare.

Profile 2: Lynn

Lynn is a senior. As she strides into the room eager to share her reactions to her previous class, the self-assurance that comes with maturity gives no hint of the academic struggles that marked her earlier years. Curly light brown hair frames a round, slightly flushed face and bright blue eyes. Well-groomed, dressed in the blue jeans and tee shirt top typical of her contemporaries, Lynn launches into animated speech decrying the expectations of her business teacher. While at this point she knows she can complete almost any assignment successfully, writing a lengthy assignment is still not on her list of desirable activities.

Lynn is a senior who has worked hard and gained much insight about her own learning process. A quiet, passive child by nature in her elementary years, Lynn's abilities were consistently underestimated by her teachers and by standardized testing. Only once her underlying language difficulties were diagnosed could the distinction be made between intellectual aptitude and the ability to verbalize (in oral or written form) what she knew. Because of her strong desire to please her teachers, Lynn had a hard time saying what she personally thought rather than what she felt they would want to hear. In addition, since she might not be clear in her first attempt to communicate any idea or would talk around the subject while trying to find the right words, Lynn would often retreat to familiar, safe phrases to express herself, even if they did not convey what she meant to say. As a quiet, well-behaved young woman, she did not give the impression of a student who was frustrated by a difference between what she knew and what she could express.

When Lynn entered high school and the expectations for reading and writing escalated, her academic difficulties increased proportionately. Somehow what she wrote always ended up awkwardly phrased and rather skewed in meaning, enough so that teachers might be interested in her idea but still be unclear about exactly what she had expressed. Excellent work habits and perseverance allowed Lynn to make it through the myriad revisions, but it would take more direct intervention by language specialists over a period of time to help her writing really improve in fluency and clarity. Strategies for reading comprehension were also part of her program since she had difficulty interpreting as well as composing the written word.

Unlike many of her classmates, Lynn is a senior who has given serious thought to her future after high school. Inspired to pursue a career in nursing from her earliest years, she discovered only in the past few years that her goal could indeed become a reality. Currently, she is enrolled in a vocational course which will prepare her for a career in the health fields. When faced with the challenge of learning medical terminology, she has devised a system of studying that helps her to compensate for memory and language difficulties. Flashcards she designs herself and strategies such as association and repetition to aid recall have allowed her to master sophisticated vocabulary while learning important concepts. In recent internships Lynn has distinguished herself as a responsible, capable health care worker who is able to make competent decisions independently. She has also endeared herself to patients who speak of her friendly, upbeat nature.

In short, Lynn is a senior who has learned to manage her academic work and to build on her interpersonal strengths in the workplace as well as in school. The confidence and self-awareness with which she approaches this project have been hard-earned. In agreeing to participate, she had taken the

opportunity to learn more about what strategies might work for her in her studies as she pursues her nursing degree at a local junior college next year. I was interested to know how oral rehearsal might affect her comprehension of what she read and the coherence of her summary/response.

Standardized Pre-testing

On the Peabody Picture Vocabulary Test-Revised (Dunn & Dunn, 1981) Lynn demonstrated a broad knowledge of words. Given items such as *porcelain, convergence, prodigy, impale,* and *encumbered,* she was able to pick the appropriate picture without hesitation. Words that were further from her personal experience such as *equestrian, depleted, angler,* and *illumination* presented greater difficulty, however, and she did not use any strategies to figure them out. In spite of her errors, Lynn's performance on the Peabody yielded a standard score of 94 (34th percentile). Thus her word knowledge, when measured without the demands of verbal production, was clearly within the average range for her age.

A strikingly different skill level was apparent when Lynn was asked to produce language on demand. The results of the *Divergent Production* subtest of the Fullerton Language Test for Adolescents (Thorum, 1986) provide evidence of her word-finding/retrieval problems. Although she was able to list *different types of transportation* and *different types of sports* fairly successfully within the twenty second time limit, Lynn had tremendous difficulty enumerating *different parts of the body, different types of grocery store items,* and *different subjects offered in school* quickly. All three of those categories should have been quite familiar and accessible to Lynn since she is studying human anatomy, shops for groceries, and is currently in high school. Her ability to list examples of each was poor, however, and she seemed unable to develop a

systematic approach. Lynn's performance on the <u>Fullerton</u> produced a score of 44, approximately one and one-half standard deviations below the mean.

An examination of her responses on the <u>Boston Naming Test</u> (Kaplan, Goodglass, & Weintraub, 1983) gives further evidence of and considerable insight into the difficulties that have hampered Lynn's performance in a classroom situation over the years. As we explore her reactions to the test, it is important to imagine the impact of such behaviors in response to a teacher's questions, in a fast-paced class discussion, and in a timed testing situation.

On the <u>Boston Naming Test</u> most individuals with average vocabulary mastery are able to name the pictures shown quite easily within the twenty second time limit. Lynn, however, fumbled and delayed in her responses almost from the beginning. After naming the number of items sufficient to establish a basal quickly and accurately, the hesitations began. When faced with the illustration of a seahorse, she first responded *horsefish*, but then was able to self-correct to *seahorse* within ten seconds. A *dart* was first named an *arrow*, but then similarly corrected. The response to a harmonica was, "Oh God..."; to an igloo, it was, "An ice cave. Eskimos live there." A picture of an escalator brought no verbal answer. Importantly, for all of these items, Lynn was able to name them correctly once she was given a phonemic cue of the first letter/sound.

Lynn's pattern of difficulty continued throughout the rest of the test. The strategies that she used independently to help her recall the names of the pictured items are essential to an understanding of her classroom functioning, however. When Lynn was presented with a pyramid, for instance, she traced the outline with her finger and was then able to give the name within five seconds. The picture of a tripod brought out the response *teepee,* making it clear that she had a sense of the configuration of the word she needed, but just

couldn't name it accurately until she was given the stimulus cue that it was something that photographers or surveyors would use. The association with a particular activity brought the word forth for her. When the picture was of tongs, Lynn first called them *grippers*, but then told herself that she had used them in chemistry. She was subsequently able to produce the precise name within ten seconds. A similar process of figuring out an object that she had used frequently in school was evident when Lynn saw the drawing of a protractor. Although she initially blurted out *a whatchamacallit*, she was able to correct herself within fifteen seconds. On many of the items Lynn would talk to herself about the object, describing its attributes or functions until she could produce the appropriate answer.

In spite of the circuitous path Lynn took through the Boston Naming, it is important to keep her use of strategies in mind as we attempt to make sense of the results. Lynn was able to name only 43 of 60 items accurately on first sight. One other object she named correctly when given a stimulus cue involving its usage. Her overall performance was approximately two standard deviations below what would have been expected in light of her receptive vocabulary score on the Peabody Picture Vocabulary Test-Revised. After she misnamed sixteen of the pictured items on the test, I gave Lynn a phonemic cue to ascertain whether that would aid her recall. On ten of those previously misnamed objects, she was immediately able to produce the needed word when given the phonemic cue. This certainly supports the idea that Lynn *knew* the words but was unable to recall them quickly on demand. Phonemic cues, associations, and circumlocutions were clearly helpful to her on this test. The question that arises from these observations then becomes how we can manage to provide opportunities for using these strategies for finding words effectively in busy classroom situations.

Writing with Rehearsal

A member of Group B, Lynn began her participation in this study by writing about "Teenagers in the Marketplace" (Text 1) after orally rehearsing. Following my reading of the article, Lynn glanced over it again. Her first response when I asked her what she thought of it was to say, "They're a big thing." Uncertain of her reference, I restated, "A big thing..." and asked, "In what way?" Although she began in an equally vague and confusing manner ("They cost a lot."), Lynn did begin to approach the topic as she continued, "They work now to get what they want. They don't see a lot of parents buying everything because they have a special need for everything they want. They have to have a special name on their clothes." Not once in her initial remarks did Lynn mention who "they" were or refer to "teenagers."

As Lynn paused and was uncertain how to proceed, I asked her which group needed "to have a special name on their clothes." Shifting gears back to the article, she then replied that it was the "social ones...because they think they have to look cool." Almost immediately, Lynn began to respond more personally to the text. "It's ridiculous...you don't need all that," she remarked. "That's the only reason why they're working...to buy things." Following this comment, the nature of Lynn's rehearsal changed; using a more personal framework to approach the text caused her account of its content to become more coherent as well. As she continued, Lynn turned her attention to why teenagers buy and what part the market plays in their decisions, acknowledging that the store owners "know what to have in their stores and what to carry because it'll bring teenagers in and they'll make money." When I asked her how much money, Lynn looked back to the article and replied, "$65 billion!"

In the latter part of her rehearsal Lynn began to integrate information from the passage with her own experiences and reactions. She was surprised, for instance, that many parents would buy their teenagers what they needed so that they could then "just buy what they want." Referring to the statistics about working mothers and how they affect purchasing patterns, Lynn described how her own mother handles buying food and manages household chores. It was clear that Lynn felt that many teenagers were not learning responsibility for their spending. "Like me, for myself, I bought my own car. I pay the payments out of my paycheck every week...and it's hard," she noted. After Lynn finished her summary and commentary, I referred her back to the initial list of instructions with the items to remember and inquired whether she felt she had covered them all. Although she felt that her account was complete and she would follow my directions to begin her written summary and response, Lynn's last spoken comment was, "I hate to write."

Despite her reluctance to write, Lynn started out quickly and had written five lines within the first minute. Continuing fluently, she had filled almost an entire page within the next five minutes. Lynn then returned to the article and kept her finger on the needed reference as she wrote for several more minutes. She finished her 167 word draft after a total of about nine minutes of writing.

When Lynn was paired with a sophomore, Mindy, to talk over the "Teenagers in the Market" article before revising her writing, their interaction began with a lengthy silence. Ostensibly they were both reviewing the text and what they had already written. In reality, both young women seemed uncomfortable and didn't know where to start the discussion. Finally, Lynn called me over to ask what it was they were supposed to do. I explained that they just needed to talk about the article before they rewrote their essays. I

suggested a number of ways to begin--that they could read each other what they had already written, that they could follow the *Remember* list of instructions, or that they could just start with what they considered to be the most important ideas.

What became apparent as they actually began their discussion was that Lynn's status as a senior and her greater self-confidence would make hers the dominant voice. As they had never met before, Mindy could not easily establish herself in the conversation. Lynn quickly restated the ideas she had formulated in her first rehearsal and in her written draft, setting a direction and tone. "Teenagers get jobs so they can buy their own things. Stores like this because kids are buying things in the stores and bringing them money," she declared. Unlike in her first rehearsal, this time Lynn has her thoughts organized and her words ready. Already having introduced her main themes, she continues, "They don't know what it is to have bills to pay because parents buy their big things for them." Her viewpoint is quickly evident to Mindy.

In spite of the age and maturity differences between them, Lynn and Mindy are luckily of similar socioeconomic status and of like mind in general when it comes to the article. Neither of them has excess money to spend on frivolous items. As a result, Mindy is able to make an entry into the conversation in response to Lynn's view. "When they just have money, they think they have to spend it because they think they'll never have money again," she ventures. Lynn's nod of the head in agreement encourages her to continue, "The adults take care of what kids really need, like shampoo, and the kids just get what they want."

Lynn quickly picks up on Mindy's words, but returns to the article as well, commenting how stupidly kids can spend their money. "I think...the kids are more socially driven than diversely or socioeconomically. They're driven by

their peers and what their peers wear...in our school...because they want to be popular." From that point on, Lynn reestablishes her dominance, with Mindy following her train of thought, but less likely to speak at any length. Her attention and occasional comments encourage Lynn to continue, however. Lynn goes on to talk about the various groups she sees, "You got the jocks, the preppies, the wiggers, and then an everyday person like me...normal." After commenting on individuals she knows, she turns her attention back to the store owners, "They want a variety in their store because they want to know what...sells the most in order for them to make money." Then she finishes with the same themes evident in her first rehearsal, recounting her car payments and how hard she had to work to get her car. She also notes that her mother takes care of her basic needs.

After her discussion with Mindy, Lynn felt ready to begin her revision although she commented that most of what she thought was already in the original. She reread her first draft, but started writing quickly. She did not stop until she was finished, eight minutes after she had begun. Her second draft, 239 words in length, was longer than the original:

> *The news article on* <u>*Teenagers in the Market*</u> *is about how teenagers are wanting or have a job to pay for their own needs. I think the main reason kids get jobs is because their parents will take care of them financially, but won't take care of their little needs like clothes that they want because they are just too expensive for the parents or parents won't buy them because they don't like them or they just don't fit their approval so they tell them to get a job and you can get what you want. Kids these days are socially driven because what one kid wears someone else wants the same thing. Then you get all these kids buying the same clothes and this is why marketplace is like this because they know what the kids want in order to bring them in and get their money. I also think that kids are sports-oriented because every body wants to be like a jock and dress like them too. So basically what I am saying is that kids these days when they spend all their money on a fashion statement they don't know what it is like to have to pay for other needs like cars. This is where the parents should step in and make them*

> *responsible for that and not just their clothing. There is more to life*
> *than what your clothes look like I think.*

When she looked back later on this writing, after she had finished all the steps in this project, Lynn would admit that the "Teenagers in the Market" had been a difficult article for her to understand and write about. She felt that she had spent much more time writing about it because of the difficulty of the information. "I would have had a much harder time with the teenager one if we hadn't talked about it," she noted.

Writing without Rehearsal

When she started the second portion of this project, Lynn knew what would be expected of her in terms of writing. With the task already familiar and the same list of instructions in front of her, she listened carefully to the reading of the "Career Decisions" article. Given the direction to begin writing, she did not delay. Within five minutes she had filled half a page with her large, rounded script. She checked back to the *Remember* list a couple of minutes later and then continued writing without comment. Having written very quickly, Lynn completed her composition of 183 words in ten minutes.

When she later returned to revise her first draft, Lynn's process was very similar. Without looking to me for any instructions, she sat down, reread what she had written and began to write. Clearly knowing what was expected, she did not even take time to review the list of items to include. Writing quickly and fluently, she finished her final copy of 205 words in ten minutes of independent work:

> *This article on Career Decisions I think is about when you*
> *get out of school either it be high school or college you need to look at*
> *things and decide what you want to do or what skills you have in*
> *order to do a job. There are several questions that you need to ask*
> *yourself because its a big confusing world out there. You need to*
> *have a basic knowledge of what's out there and what you want to do*
> *for the rest of your life. You need the proper training for your*
> *decisions, or college degree or high school diploma. Not everything*

is easy as it seems you need work hard and not just think things are going to come to you. Because what I want to be requires a degree and training and also being sure that's what I want to do, I ask myself a list of questions do I like work with other people? does it pay well? is this really what I want to do the rest of my life? Because I want to be happy and know this is what I want to be and I like it. So basically you need to think before you leap.

Later, when I asked which of the articles she preferred, Lynn gave some insight into the process she used in responding to "Career Decisions." Clearly, this was her favorite topic. "It reflects on where I am now," she noted, "getting out of high school, choosing a career." Her innate interest in the subject and her greater familiarity with the topic made the text more approachable and easier for her to write about. She said that to prepare for the writing, she read the article and then read it over, paragraph by paragraph. Although it had not been apparent to me across the room, Lynn revealed that she had "talked the career one out to myself" when she was not given the opportunity to speak with someone else about it.

Comparisons of Compositions

Lynn's placement in Group B makes a comparison of her compositions particularly interesting. She was able to rehearse orally before writing about the article ("Teenagers in the Market") she found more difficult. When she had to compose in response to a text ("Career Decisions") without talking first, Lynn had the advantage of previous practice with the writing task itself. In addition, she clearly preferred the article to which she responded without the opportunity for rehearsal. As a result, Lynn benefited from specific circumstances in both conditions of this project.

Given the advantages Lynn found as she approached the two individual articles and attempted to write about them, it is not surprising that her words convey her feelings clearly and fluently in both of her compositions. "I think" enters the writing early and signals her opinions, starting in the first line of the

"Career Decisions" essay and in the second sentence of the "Teenagers in the Market" response. Nevertheless, there is a striking qualitative difference between the Lynn's essays in terms of coherence and voice.

Lynn begins her essay written without talking first with an overview type statement and quickly shifts to a more direct, conversational tone as she writes, *This article on "Career Decisions" I think is about when you get out of school either it be high school or college you need to look at things and decide what you want to do or what skills you have in order to do a job.* While her interjection of *either it be high school or college* is awkward, Lynn introduces in this sentence the three ideas that will form the basis of her essay: examining options, deciding what to do, and evaluating skills in light of job demands. Her overview provides a strong start to her discussion of career choices.

Shifting then to follow at least part of the structure of the article, Lynn notes, *There are several questions that you need to ask yourself because its a big confusing world out there.* The sentence seems misplaced in her composition, however, because she does not follow this statement with samples of questions as the article does. Instead, immediately thereafter Lynn ends up restating her three main ideas: the need for knowledge of what's out there, figuring out what you want to do, and proper training to support decisions. She then chides her readers, *Not everything is as easy as it seems you need to work hard and not just think things are going to come to you.*

Lynn's next shift is to the more personal. As she outlines her own plans, she reiterates her key points, the degree and training needed and how she must be sure that it is what she wants to do. In this context she finally notes the questions that should be asked, *Do I like to work with other people? does it pay well? is this really what I want to do the rest of my life?* Restating one of her main ideas in several different ways, she continues, *Because I want to be happy*

and know this is what I want to be and I like it. This personal insight brings the reader to Lynn's concluding comment in which she addresses her reader directly, *So basically you need to think before you leap!*

In this composition Lynn integrates her personal comments into a summary of the middle part of the original article. The less than logical sequence of her sentences breaks her train of thought, however, and contributes to a lack of coherence on all three levels. While she does not attend to the job facts given in the first paragraph or the sources of information noted in the last paragraph, Lynn picks up on the major ideas that had relevance for her. She repeats these in different forms throughout her writing, but does not elaborate in more specific ways. It is particularly interesting to note that, while she does mention her own use of this process, Lynn does not share any of her personal plans with the reader. For a young woman so committed to her career choice, this seems like a major omission. Greater integration of her own response with the suggestions from the text would have allowed Lynn to write with more authority and voice.

A very different approach is evident in Lynn's other composition written after she had the opportunity to talk over the article both with me and with another student. Although she found "Teenagers in the Market" a more difficult passage to understand initially, the essay she writes in response seems quite authoritative. Rather than following the structure of the article in her commentary, Lynn reorganizes the information. As a result, she is able to integrate the material from the article into a personal framework, reflecting her own perspective on the information presented.

This personal perspective is evident even in the first sentence of the essay, *The news article on 'Teenagers in the Market' is about how teenagers are wanting or have a job to pay for their own needs.* Transposing the ideas from

the text, she focuses on one aspect--why kids have jobs. Following her introduction of this idea, Lynn continues, structuring an argument that will eventually draw on each major element of the original article interpreted in relation to her own point of view. *I think the main reason kids get jobs is because their parents will take care of them financially, but won't take care of their little needs like clothes that they want,* she posits. Parents, after all, may find the clothes too expensive or they may not *fit their approval.* Although she omits the quotation marks that would make her intent clearer, Lynn's feelings and experiences come through clearly as she states, *So they tell them to get a job and you can get what you want.*

Unlike her strategy in the other composition, Lynn now takes a specific idea and utilizes newly introduced word choices from the text, writing, *Kids these days are socially driven because what one kid wears someone else wants the same thing.* Smoothly integrated into her essay, this idea leads to another key theme from the original article. *Then you get all these kids buying the same clothes and this is why marketplaces like this because they know what the kids want in order to bring them in and get their money,* she notes. Her logic is clear as Lynn links peer pressure to the economics of the *marketplace,* a term that was also probably unfamiliar before she read and discussed this text. This integration of key terms continues in her next sentence, *I think that kids are sports-oriented because everyone wants to be like a jock and dress like them too.*

Lynn's next words, *So basically,* give the reader a cue to her essay structure as they signal a transition, this time to a new idea rather than to a conclusion as they do in her other composition. Here they introduce her personal reaction and perspective on the reasonableness of teenage spending. *What I am saying,* Lynn begins, *is that kids these days when they spend all their money on a fashion statement they don't know what it is like to have to pay for*

other needs like cars. Her own sense of responsibility and the need for teenagers to develop values comes through as she advises, *This is where parents should step in and make them responsible for that and not just their clothing*. Lynn's concern about the topic is clear as she concludes, *There is more to life than what our clothes look like I think*.

Both of Lynn's compositions communicate her thoughts clearly. And both are written in an expressive manner. The differences between them are found primarily in the density of ideas and the writer's perspective. When Lynn writes about "Career Decisions" without talking it through first, she draws on the framework of the article, but reiterates three ideas several times without using details to support her view. In her summary and response to "Teenagers in the Market," on the other hand, Lynn does more than simply repeat the same ideas in different forms. Instead, after orally rehearsing, she constructs a personal framework and integrates details and specific vocabulary from the article into her essay. Following a logical progression, she shapes her idea, elaborates on it, and then shifts to a personal reaction. The greater precision of her word choices, the smoother flow of her syntax, and her use of cues to the structure add to the interest of Lynn's writing in the "Teenagers" composition and contribute to greater coherence and a more authoritative voice.

Reflections

When Lynn and I later discussed the process she had completed, some interesting perceptions came to light. As she examined all her writings for the project, Lynn felt that her "Career Decisions" composition, completed without rehearsal, represented her better effort. "I was interested," she noted in explaining her reasons. Lynn preferred the more familiar subject matter which in her view allowed her to take on the role of an authority and felt she had done

a better job "because I spent more time and effort." The article's clear relationship to her current status as a graduating senior was the key to her preference.

In all her other comments, however, Lynn was resolved in her belief that oral rehearsal was a significant factor in her ability to write coherently about the "Teenagers in the Market" article. She had initially had a difficult time understanding the text, but "because we explained it and went over certain parts and how I felt," she became more comfortable with her mastery of the subject matter. In light of the reading comprehension weakness that has been an issue for Lynn over the years, the effects of talking through the material are particularly salient. "Talking about it helps it stick in my head," she declared, adding that, "I can relate it to different things." In essence, by orally rehearsing Lynn had created the opportunity to use the strategy of association that had been so helpful to her during pre-testing, particularly on the Boston Naming Test.

When I asked if talking through the article had made a difference to her ease in starting to write, Lynn was quick to reply that it was much easier "because I knew what I wanted to say." Her comment prompted me to recall the contrast between her first oral rehearsal and the second one. In the first, Lynn had started out with such vague, ungrounded statements that I was not even sure of her intent. Only in response to my questions had her line of thought become more defined. When she began her second oral rehearsal, Lynn's ideas were already formulated and her use of vocabulary was appropriate and specific. Lynn seemed to be aware of this change and its effects on her writing. Having articulated her thoughts orally seemed to be important as well to her ability to continue writing at greater length. "More ideas came up as I wrote," Lynn told me. "I had more fresh in my mind." Her

perception is certainly supported by the nature of her two final compositions. The number of idea units in her "Teenagers in the Market" essay is much greater than in the "Career Decisions" writing, and her use of smoothly integrated subject-specific vocabulary is striking.

Lynn's opportunity to try out the ideas and vocabulary in her oral rehearsals was valuable to her. This was true particularly because hers had been the dominant voice in the discussion with another student. When I asked Lynn about which oral rehearsal she had preferred, however, she noted that she was more comfortable with me than with Mindy. She felt that she could have done better with Mindy than she had "if I knew her better." Surprisingly, Lynn had not sensed the advantage of her senior status in the situation. Her dominance in the conversation was likely more attributable to her lack of comfort than to her level of confidence.

The message that was clear in all of her comments about her participation in this project was that Lynn felt that talking through a text before writing about it definitely helped her. Although she preferred the "Career Decisions" article itself and had more prior knowledge of the issues involved in it, Lynn noted that she had "even talked out the career one to myself." When asked about what she disliked the most about the entire process, she responded, "Reading by myself...or trying to get my thoughts out." Lynn felt that she had taken a longer time on the first writing about the "Teenagers in the Market" article "because it was a more difficult article to me," but, in fact, she had written more quickly on that draft than she had on the "Career Decisions" one. She had spent ten minutes on the career response, but only eight minutes on the teenager essay. While the ideas and vocabulary were less familiar, Lynn's thinking about the topic was more developed by the time she first put pen to paper.

Lynn's experience with writing when she talked about the subject before composing a summary and response in this project was clearly different from her typical encounters with writing. Normally, "I know what I want to say, but I can't say it on paper," she told me. In addition, she noted that she had trouble finding the right words to say exactly what she meant "in every class." Even the second oral rehearsal she completed here reflected changes in Lynn's ability to express her ideas with clarity and coherence. Rehearsing orally seems to provide Lynn with the opportunity to use the retrieval strategies that proved so helpful in her pre-testing. Her increased ability to put her thoughts into words with greater precision and to combine those words into coherent sentences clearly improved the quality of Lynn's writing in this study. Her personal acknowledgment of the changes in her level of ease with the writing when she could talk through the subject first also supports the importance of oral rehearsal as a pre-writing strategy for Lynn.

Profile 3--Mindy

Mindy was a sophomore, full of uncertainties but eager to please. Her style provided a striking contrast to Lynn's. Although she did not hesitate to agree to be part of this project, a subtle wariness had set in as we broached academic matters. With her curly reddish brown hair pulled back and secured, Mindy studied me carefully. Her lively brown eyes were friendly, but she did not initiate any conversation. I could almost hear the thought running through her mind, *What have I gotten myself into?* It is a thought that she shared with many other participants, I imagine.

When I asked about her experiences in writing, Mindy began to twirl her hair around her finger. She doesn't really like to write, she admitted, unless she is really interested in the topic. A pause follows. Prompted to continue, Mindy commented that she does like to write "about a memory that we had when we were younger." What she likes best about writing is that it is possible to "get your feelings out on paper." This she finds "real helpful." As she talked about these more personal uses of writing, Mindy smiled shyly, warming to the situation a bit. Still, she spoke very softly, and I had to concentrate to catch her words.

Academic writing had been a completely different matter for Mindy. She had much more trouble with organized assignments for class, especially when she had to write about specific content area material. Her "biggest problem" is getting started, she noted. When she is trying to get ideas, she just "can't remember everything." As we continued, I began to understand that, although she was "trying to get work done," Mindy had been having a difficult time in her English class. She talked about a recent <u>Macbeth</u> test. She felt that she had answered the short answer questions adequately, but she had trouble on the

essay. When I asked what she did as a result, she admitted that she simply did not attempt to write it. Knowing her teacher to be very receptive to assisting students who had difficulties with writing, I suggested Mindy talk with her. My curiosity aroused, I questioned Mindy about what she did when she ran into trouble with an assignment, who she might ask for help. She responded, "I don't ask for help. It makes me feel dumb." Her clear lack of comfort both with writing and with asking for help was disquieting. Her hair was twirled tightly around her finger at that point.

As we talked more about her English class, Mindy remarked that another difficulty she had in class was "using heavy-duty words." Her teacher wanted her to "use action words," but she was not really sure how to do that. Straining to catch all her softly spoken words, I could understand that Mindy probably had a hard time being direct and using action words in class or in writing. If talking was difficult for Mindy, clearly writing was more so. "Sometimes you say it out loud, but you don't know how to put it on the paper," she shared. While she felt she had the words in her head, Mindy did not feel confident in writing them down, for, "It may not be what you wanted to say." Not only did she have trouble deciding on the words, however. Ordering them was equally difficult. As she noted, "It's hard to put it on paper because you don't know if you should put this word first or second." How to "phrase it" was a major concern for Mindy.

It was clear to me from our initial interview that Mindy would require more nurturance and guidance than some of the participants. She would be cooperative and eager to please, but I was asking her to do more of what she found most difficult in school, to write content-based essays. Her anxieties about the project would no doubt be high since she had such little confidence in her ability to complete such tasks. Her reluctance to ask for assistance

concerned me as well. As we began her pre-testing, I was interested in how Mindy would respond to the structure of the project, whether the process we would complete using oral rehearsal could dispel some of her fears and increase her confidence in writing.

Standardized Pre-Testing

Mindy's reticence and her comments about "heavy-duty words" led me to think she would be a good candidate for this project because she seemed to understand much more than she could express. Her performance on the Peabody Picture Vocabulary Test (Dunn & Dunn, 1981) quickly confirmed that her receptive vocabulary was at an average level for her age. With a standard score of 101, Mindy's knowledge of words was placed at the 52nd percentile. She was able to choose the correct picture to illustrate such lower frequency words as *mercantile, cascade,* and *arrogant,* though she did not recognize *inclement, fettered,* and *carrion.*

In light of her results from the Peabody, it was soon evident on the Boston Naming Test (Kaplan, Goodglass, & Weintraub, 1983) that Mindy's ability to retrieve words quickly and accurately on demand was severely compromised. Although she moved smoothly through the early items, Mindy began to hesitate as objects pictured became those not observed everyday. When faced with a pair of *stilts,* she called them *staples.* She could tell me that a *stethoscope* was something a doctor uses, but she could not remember its name until I gave her a phonemic cue of the first sound. This was true for many other items as well.

It was interesting to note the pattern of Mindy's initial responses, since she often chose words that shared common sounds with the actual item. For instance, a *muzzle* was a *mug* or a *mask;* a *latch* was a *lock.* Mindy also drew on associations in her responses. A *compass* was a *circumference,* and a *funnel*

was a *cylinder*. She used definitions as well in her initial answers, and, as a result, a *harp* became that *harmony thing an angel plays*, and a *hammock* was a *tree swing*. When she tried to identify a pair of *tongs*, Mindy ran through a series of similarly sounding words (*tongles, togles*, etc.) to arrive finally at the proper one. On the <u>Boston Naming Test</u> Mindy obtained a score of 42, more than two standard deviations below the mean. Given 14 phonemic cues on items she missed originally, Mindy was able to identify 10 of those pictures correctly.

Interestingly, Mindy's performance on the "Divergent Production" subtest of the <u>Fullerton Language Test for Adolescents</u> (Thorum, 1986) was not so significantly depressed. When she was able to set up a system for listing items in the categories suggested, Mindy was quite successful. This was particularly true when she enumerated *Different parts of the body*. Moving smoothly from head to toe, she listed twenty items fluently. While in all the other categories she named slightly fewer *types of transportation, grocery store items, sports,* and *school subjects* than would have been expected, Mindy's overall score of 56 on this subtest places her ability to list spontaneously at only .5 standard deviation below the mean. Recalling the names of pictured items out of context and without preparation seems to be more difficult for Mindy than creating her own list of contents in a familiar category.

<u>Writing with Rehearsal</u>

Like Lynn, Mindy started out in this project by writing about the "Teenagers in the Market" article after orally rehearsing. Unlike Lynn, she was quite reticent even alone with me in the first rehearsal. As a result, my role became more pronounced than it was with Lynn. Rather than sitting quietly and listening, I tried to pick up on what Mindy did say and to use her own words as a prompt to continue. After I had finished with the oral reading

of the article, for instance, I asked Mindy directly, "What is this about?" When she replied that it was about "teenagers going to the market" and then paused, I followed up with a question about what "market" this was. She replied, slowly clarifying that this was a broad use of the term, not the corner store.

Although she volunteered little information, it became apparent as we continued that Mindy had understood the gist of the article quite well. When I prompted her to carry through her idea about the market by asking where the teenagers would go, she immediately interjected that "there are four groups" and that they would go to different places. With the concept thus firmly established, we started to look at each of the groups. Mindy was less sure of herself as we moved into more specifics. Starting out, "Like the sports ones might go to <u>Strawberries</u>" (a music store), she quickly corrected herself, "No, no....they might go to ----," naming a nearby sports store. Seeming at a loss for words, Mindy then said that some of the teenagers might go to a beautician. When I asked which ones were most likely, she responded, "The Socially Driven."

After venturing into these details, Mindy paused again, this time returning to the article for input. "Teenagers are doing more shopping for their parents these days," she pointed out. Mentioning commercials that are aimed at teenagers, she explained that it was "because they know that teenagers have money and they'll go out and buy it." She paused again, and then in response to my prompt, she noted that teenagers spend $65 billion per year. When she stopped again, I asked if she knew people in all four groups. Mindy answered, "Yes," but did not elaborate. To encourage her to continue, I then alluded to each group separately. Rather than defining the group by their interests, she chose to comment on how widespread those interests might be. For instance, the Socioeconomically Introverted were "kind of hard" and she did

not see herself like that, but "you see a lot of" the Sports Oriented, she noted. Her explanation of the Diversely Motivated was rather interesting and insightful, however, for "If they have to be in a group, they will be, but it they don't have to, they have an option to be by themselves." She also thought they were "adventurous." Although she had trouble with the names of some of the groups, Mindy did seem to have an understanding of what they represented.

When I asked what she thought of the article and what in it was interesting to her, Mindy replied that she thought it was accurate. She felt it was particularly remarkable that "most mothers have like a full time job." If this put pressure on teens, "That's good because then you get ready to go into the 'big life'." It was important, she felt, to have to think, "Do I have enough money for this?" As she began to comment more personally on the article, Mindy's rate of speech and her enthusiasm picked up. Reflecting on the material, she added that, "They don't have it in here, but there's music groups too. You see these people that carry guitars and whatever." When I asked whether they might come under one of the other groups, she did not know, but she spoke a bit more about teenagers playing the guitar and forming bands. Her expansion of the ideas in the text was spontaneous and gave an indication of how she was assimilating and integrating the information with her own experience.

As Mindy finished talking about the article and we moved toward starting the first written draft, she echoed Lynn's words, "I hate writing." When I reassured her that she had talked about the material and she really knew much about it, Mindy remarked, "I know, but it's hard to write on paper. It's easier to talk." In spite of this complaint (or perhaps it was just meant as a warning to me not to expect too much) Mindy began writing quickly, saying that she does not organize but just writes. Within six minutes she finished a

first draft of 131 words that she felt included everything that was needed. A look at the essay confirmed that she had captured all the major ideas in words and had even integrated her own reactions with many facts from the text. That this was completed in six minutes was a surprise after her comments earlier about how very difficult it was normally for her to get started.

Mindy's reticence with me through much of the first rehearsal led me to be somewhat concerned about how she would react to another student in the second rehearsal. As we have seen in Lynn's profile, Mindy was indeed the quieter partner in the conversation. I wondered how much this would affect her later as she revised her composition. Certainly, the lengthy pause before she and Lynn were able to begin talking with each other concerned me as well. What I found as I watched them from across the room and then later listened to the tape was that, although she did not speak very much, Mindy was following the conversation intently and nodding or adding a few words as appropriate. Her longest entry into the discussion, in response to Lynn's first summary of the material, "They think they'll never have money again so they spend it. The parents get things like shampoo and kids just get what they want," was critical in establishing herself as a participant and as a thinker, however. Her other comments came in response to direct questions. Without prompts from Lynn of the type I had made, Mindy was content to listen to Lynn and to respond nonverbally for much of the rest of the rehearsal.

After they had finished talking and she started to write, Mindy looked intense but began to write quickly. Looking over both her original draft and the text, she wrote steadily for 17 minutes, producing the following composition of 218 words:

Teenagers in the Market

> *I feel that more markets are trying to persuade kids into buying stuff that they don't need but it's cool to have, so they go out and buy it. I feel that teenagers think that if they don't get something that everyone else has that they won't be cool. I thing everyone in their own way is Socially Driven, for example, if one kid as a pair of Air Walks on, other kids are going to go out and buy them because everyone else has them. I could use this information by that now I know that stores and commercials are trying to get to the teenager's mind. Some teenagers take advantage of their parents, because they don't have to pay for bills or save up to get a new car. While other kids have to work and same money for a car, I feel and I also see that kids usually go out and spend their money on what they want and not on what they need. they usually let their parents get the stuff they need for them.*
> *I dislike how these people (researchers) are like spying on us teenagers and now I feel like I have to be careful for what I buy or I will be put into a group.*

When I asked Mindy later about this rehearsal, she clearly had enjoyed talking with Lynn, but her greatest fear was that she would just borrow Lynn's ideas to write about. She wanted to maintain her own thoughts as well.

<u>Writing without Rehearsal</u>

Mindy's next step in the project was to write a summary/response to "Career Decisions" directly after hearing/reading the text. Later she would tell me that she much preferred this article since it was a more familiar topic and she had more feelings toward it. This comfort level with the subject seemed to help Mindy start writing promptly after we finished the reading. Having written four lines in the first two minutes, she then looked back at the article briefly before continuing. Writing for another two minutes and completing about ten more lines, she repeated the process of reviewing the text as she wrote. Mindy seemed relaxed, resting her head on her left hand at time, but remaining very much on task. Working steadily, she completed her first draft of 187 words in eleven minutes. As she got up to hand me the essay before leaving the room, Mindy asked if she would be talking to Lynn again about this

one. She seemed disappointed to learn that she would not. It was interesting to know she had looked forward to repeating that type of conversation.

When she returned to complete the revision of her "Career Decisions" essay, Mindy sent right to work again. Looking over the original quickly, she asked if she could cross out on that copy. With my permission, she did so and subsequently wrote quickly, even adding a title to her composition. After about fourteen minutes of writing, she questioned me about a word, "When you are at a job, what are the other people you work with called? Employees?" I assured that the people on a work site were "employees," but noted that "colleagues" might better describe the people with whom one works. Mindy quickly continued writing and finished the following essay of 179 words in fifteen minutes:

Career Choices

> If you are a teenager and you don't know what you want to be later on in life, you should begin with a job that you are interested in and a job that stands up to your own ability.
> Teenagers sometimes have a hard time figuring out what they want to become. They should ask any questions they don't understand, or any worries, or concerns.
> Some jobs vary. One job may be too hard for one person, but for another it may be too easy. You should get a job that requires your ability and if it interests you.
> There are different types of jobs, just like there are different people. Some may be anti-social, so they would do something where it doesn't involve alot of people or conversations. Then there are some people who are very sociable. They would want to work with people.
> Not matter what the job is, people usually talk at least twice a day, saying "hi" and "bye" to their colleagues. There is a job out in the world for every different person.

When I asked her later about how she had organized her thoughts when she did not talk before writing, Mindy commented that she just followed her thoughts and skipped over anything in the article that she did not understand. If something did not "sound right," she would wait and put it somewhere else.

Comparisons of Compositions

Both essays that Mindy wrote as part of this project provide an interesting summary/response to the articles she read. After her comments in the initial interview that starting out an essay was the most difficult part for her, I was surprised to see how fluently Mindy had handled the writing. All her drafts were completed quickly, especially her first draft about the "Teenagers in the Market" article. The confidence that Mindy demonstrates in both compositions is striking as well. Clearly, she feels that she understands the information included in each article and that her personal reactions are valuable. In both essays Mindy takes a personal tone, sharing her insights directly with the reader. In spite of these similarities, however, there are salient differences between the compositions written with and without rehearsal. These are particularly evident in the content and in the unity of the essays.

Mindy's composition about "Career Decisions," written without talking first, begins with an excellent overview statement, *If you are a teenager and you don't know what you want to be later on in life, you should begin with a job that you are interested in and a job that stands up to your ability.* In this one sentence she manages to synthesis the author's main points. Speaking directly to the reader, she introduces the topic that she will expand upon soon. Changing her point of view in the next sentences, Mindy notes in third person that, *Teenagers sometimes have a hard time figuring out what they want to become,* and then suggests that they *ask questions they don't understand, or any worries, or concerns.* While her use of separate paragraphs for these two related thoughts is distracting, they flow together and provide a basis for her summary/response.

As she continues in the next paragraph, Mindy begins to lose her clear focus, however, and moves in several directions. First, she writes about the jobs that teenagers should investigate, explaining how a job may be *too hard* for one person but *too easy* for another. This by itself is a logical extension of her earlier thoughts. The next sentence reinforces her topic statement, commenting that *You should get a job that requires your ability and if it interests you,* but because she does not expand any further on her thought, it seems more repetition than elaboration. Her next statement repeats the thought again. This time she follows it up with some thinking about suiting people to job sites. Her point that job settings vary in terms of sociability is accurate, but Mindy's use of the *anti-social* seems too strong for the group of people she means to describe. Her observation that people *who are very sociable...would want to work with people* fits with her emphasis on choosing a type of job.

Mindy's final "paragraph" seems somewhat disjointed, a tangential thought juxtaposed next to a discussion of sociability. *No matter what the job is, people usually talk at least twice a day, saying "hi" and "bye" to their colleagues*, she comments. Her final sentence, *There is a job out in the world for every different person,* would have provided an ending to her thoughts about jobs, but it seems out of place after consideration of how much people talk on the job site.

More important than the final paragraph by itself is Mindy's tendency in this essay to repeat the same ideas without much real elaboration. In a variety of phrases she restates the idea that teenagers should choose jobs based on their abilities and interests several times. She includes references to questions that should be asked and to job differences but little other information from the original text. Her only elaboration is about the social

situation in some job settings. While this composition about "Career Decisions" starts off in a focused, coherent manner, the main topic seems to get lost as she continues. As a result, the essay as a whole becomes repetitive and does not follow a clear, unified structure.

Mindy's essay written about the "Teenagers in the Market" article after she had rehearsed with me and with Lynn reflects differences in her understanding of the material and in the unity of her summary/response. This shift is evident even in her first sentence. Rather than noting that teenagers spend a lot of money (as would be a typical reaction), Mindy starts out with an original interpretation from a very sophisticated point of view. In the process she integrates information from the text with her own personal reaction. Focusing on the manipulative nature of market strategists, Mindy writes, *I feel that more markets are trying to persuade kids into buying stuff that they don't need but it's cool to have, so they go out and buy it.* With this sentence and the one following, *I feel that teenagers think that if they don't get something that everyone else has that they won't be cool,* Mindy stresses the role that marketers play in creating social pressures. In introducing an illustration of her point, Mindy reflects both the author's concept of teenagers grouped by interests and her own reaction. *I think everyone in their own way is Socially Driven,* she begins and then moves on to her personal example, *if one kid has a pair of Air Walks on, other kids are going to go out and buy them because everyone else has them.*

Having followed a logical progression through her topic thus far, Mindy then turns to applications as she writes, *I could use this information by that now I know that stores and commercials are trying to get the teenager's mind.* While her insertion of *by that* is awkward, with this sentence she turns the topic to how teenagers are making their choices now. Taking information from

the original article about teenagers and the money they make from jobs, Mindy elaborates on how some *take advantage of their parents because they don't have to pay for bills or save up to get a new car.* Clearly, Lynn has prompted her to think about the costs involved in cars, but Mindy completes her own thought as well. *I feel and I also see that kids usually go out and spend their money on what they want and not what they need,* she points out As she explains these tendencies of teenagers, she also returns to the influence of the markets in creating needs.

In her concluding statement Mindy ties all her earlier information and examples into her overall reaction to the manipulation of teenagers' buying habits. *I dislike how these people (researchers) are like spying on us teenagers,* she comments and then goes on to describe the action she will take as a result, *and now I feel like I have to be careful for what I buy or I will be put into a group.* Having come full circle and returned to a clear restatement of her topic sentence, Mindy has incorporated the major ideas from the "Teenagers in the Market" article into a personal explanation of and reaction to the situation that marketing researchers create. In this essay Mindy includes much more information from the original text and organizes her thoughts more effectively than in her "Career Decisions" summary/response. The resulting composition integrates more sophisticated content into a more unified framework that contributes to increased coherence and a clear, expressive voice.

<u>Reflections</u>

There appear to be at least two different types of changes in Mindy's writings for this project. The first are those separating what occurred in *both* conditions while she participated in this study from her usual experiences in writing. The second are the shifts that took place in her written products only when she talked before composing. An exploration of both types of changes is

important to understanding how particular elements of this process contributed to Mindy's greater ease and fluency in writing.

The confidence with which Mindy wrote throughout the course of this study seems to have been atypical for her. At least part of this change seems to be the result of the more nurturing, individualized situation in which she wrote. The personalized approach in this project allowed Mindy to feel more comfortable with the material and with the task required of her than she often is in the classroom. Before we even approached the writing phase, I had met with Mindy individually, talked with her about her prior experiences, and tested her word knowledge and retrieval. During these interactions, she had begun to trust my motives and to feel relatively relaxed in my presence, knowing I was not there to judge her. Her placement in a group that rehearsed before writing in the first stage was helpful in further personalizing the experience. Mindy, in fact, missed talking with Lynn when she later had to write without rehearsing. For someone who had told me earlier, "I don't ask for help. It makes me feel dumb," she had certainly warmed to working with someone else. Orally rehearsing with someone, just talking through her ideas, did not seem to have the same connotation of 'asking for help.'

Other factors seem to have affected Mindy's confidence levels as well. One of these was her familiarity with the content of both articles by the time she wrote about them. From her various comments it is evident that Mindy both preferred the content of the "Career Decisions" article and felt that she had more to say about it. After all, "it was more interesting." Her familiarity with the career information certainly made it easier for her to compose immediately after reading because she "knew what they were talking about and it was a lot clearer." By the time she wrote about "Teenagers in the Market," Mindy felt that she understood the content of that article as well.

Since the material had originally been less familiar, in that case her comprehension was the result of orally rehearsing.

Her understanding of the assignment was another factor in Mindy's increased confidence in this project. When she wrote about the "Teenagers in the Market" article, Mindy had the benefit of having already talked through the material in relation to the items on the *Remember* list; the practice she had in the first phase then made the task easier when she wrote about "Career Decisions" without rehearsing. With the topics and the assignment clearly understood in advance, Mindy was more confident and more fluent than she usually was when given a class assignment that required writing.

While the more personal approach, her comprehension of the content, and her understanding of the assignment all increased her confidence and fluency in writing throughout this project, other changes in her written products were evident only when Mindy had the opportunity to talk before she wrote. A comparison of her compositions does not support Mindy's contention that she actually knew more about "Career Decisions," than about "Teenagers in the Market." Mindy's remark to me later that, "The teenager one was better than it would have been because I understood it more after I talked," explains in part the difference between her perceptions and the actual content of her essays. While she acknowledged that at first, "I didn't really see what it had to do with me," Mindy gained considerable insight about teenagers and market strategies through the process of talking with others. Her preference for "Career Decisions" makes it surprising that her composition about "Teenagers in the Market" is actually more informative and well-organized, but her insights into the effects of oral rehearsal provide some explanation. Noting that the career essay would probably have been better if she had talked about it too, Mindy admitted that she was glad she had already been familiar with the

topic, "So just in case there wasn't someone to talk to about it, I could do it on my own."

All Mindy's responses to the writing tasks in this project are of interest because of the difficulties that had been apparent long term in most of her academic writing. She had shared with me earlier how much trouble she had finding the right words to say what she meant. Putting her thoughts into written form had always been a challenge. "You can say it orally, but when you have to write it down on paper, it's harder because you've got to change the words around," she commented. While awkward expressions are still evident in both her final essays, Mindy clearly started out and continued writing with more fluency in this project than was usual for her.

My concerns that as the more reticent participant in the student-student discussion Mindy would feel uncomfortable were not supported by her comments and reactions. Her only concern was that she might "just take her words and...just be a copy" of Lynn because of the discussion. Noting that she made sure to use her own words as a result of this fear, Mindy also pointed out that she really liked to hear other people's opinions. Whether more active talking on Mindy's part would have made a difference to her use of awkward expressions in her writing remains a question. Even without a greater willingness to elaborate verbally, however, her participation in the discussions and the formulation of her thoughts while talking with another person certainly created differences in the overall coherence and informational density of her essays. The integration of her own reactions with the facts from the text in turn increased the power of her voice. A combination of factors both social and cognitive seem to have facilitated the fluency of Mindy's words and of her ideas in this project.

Profile 4--Evan

From the moment I met Evan, we were off and running. Shy is not a word that comes to mind in describing this young man. A husky, self-assured junior, he immediately swept me up in his commentary even though we had just met. Perhaps I had just managed to ask the right questions, or perhaps he was interested in guiding the conversation in his own direction. At any rate, when I inquired about his experiences with writing, his enthusiastic response was not what I had grown to expect with the group of students referred for inclusion in this study. Then again, the content of his reply was not what I would have considered typical either.

"I'm more productive with fantasy, role-playing writing," came Evan's response to my very general question about writing experiences. As he gauged my reaction, he continued on and, with only the vaguest hint of a stutter, began telling me about his Palladium role-playing club. They met in the English classrooms after school, he noted, "four or five of us." There were evidently other clubs that were similar; this group he found particularly interesting because they would take ideas from books to get started but then make up their own fantasies. Each person in the group would write their own character sheet, Evan shared in low, unruffled tones. Then the group would work together, with each participant acting out the role of a character in an adventure called a *campaign*. Evan noted that he enjoyed it most when he could play himself in the adventure.

As we continued our discussion and I shifted the conversation to ask more directly about writing for classes in high school, Evan's enthusiasm dulled slightly. After all, "grammar" was less interesting than writing with fantasy roles, he pointed out. When I asked about what helped him to write, he perked

up again, however. It helped him to have lots of background information when he started writing, Evan said, so he would brainstorm his ideas first. Without a moment's pause, he added that he generally knew something about any subject. He loved to play <u>Jeopardy</u>, he told me, and "I get most of the questions right." I began to wonder if he would prove to be a good candidate for this study as he noted how quickly he could pull up the answers.

When I asked Evan about any difficulties he might experience with writing, his reply became much more subdued and matter-of-fact. As he continued, I noticed as well that his stutter now seemed more pronounced than it had been earlier. The hardest part for him, he shared, was to get organized. Then there were also problems with grammar and punctuation, he admitted. Fragments and run-ons were particularly troubling. He was correcting more of those this year, however, with his English teacher's guidance. Last year's teacher had been "hectic on those too," he added.

Clearly, Evan was a student who needed to be interested in the topic in order to write much. In response to my question about previous teachers and strategies that had worked for him, he told me about a sixth grade teacher. In that class, the teacher would periodically assign free writing as homework and tell the students to "see how far you get." The next day or two days later they would all share their writings with the class. Evan appreciated that the teacher would note the length of each of these writings, taking that as an indication of interest in the subject. Then, for the final project in the class, the teacher would select for each student a topic within their individual field of interest.

By the time that we were set to proceed to the pre-testing, I had a good sense of Evan's comfort zone with writing. For the most part, his enthusiasm for particular topics carried him through the difficulties he might face with

grammatical concerns and punctuation. While he might be more apprehensive about certain aspects of organizing his thoughts and composing, Evan was a young man who had a good sense of himself, who liked to tackle stimulating ideas, and who enjoyed expressing his opinions. His response to this project would certainly not be dull, I told myself. The decrease in his oral fluency when he moved to less "interesting" subjects had made me wonder whether he could maintain his enthusiasm when talking and writing about content-area texts not of his choosing. The pre-testing would give me greater insight into Evan's verbal skills when he was not the one determining the subject matter.

Standardized Pre-Testing

Evan moved quickly through the first phase of the pre-testing. On the Peabody Picture Vocabulary Test-Revised (Dunn & Dunn, 1981) he was able to choose the appropriate pictures without hesitation, demonstrating understanding of words such as *filtration, wrath, fettered* and *trajectory*. Words that he could not recognize included *constellation, nautical, repose,* and *indigent*. With a standard score of 99 (48th percentile), Evan's performance reflected receptive word knowledge that was average for his age.

As he began the Boston Naming Test (Kaplan, Goodglass, & Weintraub, 1983), Evan seemed as confident as he had been on the Peabody and established a basal easily. His pace slowed as he continued, however, and soon he could not think of the word *dominoes*. When I gave him the first sound of the word, however, he immediately responded correctly, noting that it had just "smacked him in the head." Evan's upbeat, humorous approach carried him through the next few words, but soon he went blank on *hammock* and *knocker*, calling the former a *cot* and the latter a *knock door* . While he was subsequently able to name the *stethoscope, pyramid,* and *unicorn*, he could not figure out *funnel* without another clue of the initial sound. When he came to a

spear of *asparagus*, Evan kidded that it was a "weird looking branch," but then he pointed out that he really thought it was something to eat. Similarly, he called a *tripod* a "space shuttle" before noting that it was something surveyors use.

All these early items but one Evan was able to name appropriately when given a phonemic cue. Rhymes became helpful as well when Evan initially called *tongs* "prongs." Even items on the Boston that should have been familiar gave Evan difficulty when he was asked to retrieve the name so quickly. Although he told me that a *protractor* was "that thing we use in math," he also admitted that, "I can't get it." With a phonemic cue, however, the word came out easily. His good nature allowed Evan to kid about many of his errors, as when he recognized an *abacus* as a "Chinese calculator" but then went on to laughingly call it a "count-o-meter." Evan managed to name 49 of the 60 items on the test correctly, and he named seven more accurately as soon as he was given a cue of the initial sound. This placed Evan's performance about one and a half standard deviations below the mean.

Similarly depressed skill in producing spontaneous language was evident when Evan completed the "Divergent Production" subtest of the Fullerton Language Test for Adolescents (Thorum, 1986). Although he replied with a list for each of the prompts, he had trouble developing a system for recalling items in some categories. This was particularly evident when he tried to list *parts of the body* and *different types of grocery store items*. Rather than moving from head to toe or vice versa, Evan started out *arm, leg, toes, ears,*...and continued in no recognizable pattern. In naming items from the grocery store, he was at least able to pair or group some of the articles (*peanut butter, jelly, sausage, bacon, Ajax, potato chips, soda, hamburger, hot dog, celery*), but paused noticeably between them as he had to shift channels. Without a more

systematic approach to recall, Evan will likely continue to experience difficulty when he is put on the spot. His score on the "Divergent Production" subtest was 48, approximately one standard deviation below the mean.

Evan's performance on the standardized pre-testing eradicated any doubt his comment about his expertise at Jeopardy might have fostered in my mind. In an unfamiliar context, dealing with items that he was not already thinking about, he clearly experienced difficulty recalling and naming objects quickly and accurately. Having met the criteria for inclusion in the study, Evan would make an interesting participant, I was sure. The differences in his language fluency when he was on familiar territory and when he was required to respond to foreign ideas and frameworks were striking. I wondered whether oral rehearsal would be able to help him bridge the gap, to bring less familiar subject matter onto his home ground.

Writing with Rehearsal

Evan's first task as a participant in this project was to write about "Career Decisions" after having orally rehearsed. As soon as we began, his enthusiasm and willingness to share his thoughts returned. After I read through the article with him and explained each point on the *Remember* list to prepare him for the writing he would do later, Evan jumped right into the article. "I did a report on this," he told me. Clearly, it was a topic he had enjoyed, and the words started flowing immediately, "What the author was saying..there the...uh...in the future which I learned that, so far I learned that it was almost coming out like he said it was...that the colleges, the degrees and stuff that you know you might need, but when you do get your degree and go to that job you don't need that degree." I was confused. While he had been much more prepared to talk earlier about his fantasy role-playing, Evan was now in

a less familiar domain, and his thoughts were coming out rather jumbled. In this "generating" phase his stutter was also evident at times.

As he continued speaking, Evan was able to restate these ideas in a slightly clearer form. His point of view was not entirely apparent, however. On one hand, he noted that, "The author would probably say you'll need the computer part [of school], but not the math and English...a waste of time." In the next breath, he seemed to take a different tack, saying that "When you did get that degree, they did teach you more than you learned." Recounting a phone call from a friend, Evan pointed out that sometimes even presidents of companies don't have degrees. From here he digressed to his own interest in computers and how he likes to work on-line. He even volunteered to get me the appropriate software so I could do the same.

After letting Evan talk about his own interests for a few moments, I shifted his attention back to the article itself. "So what do you think he is saying---what was his key idea?" I asked. Evan quickly responded that one was, "Psychic income." Since this was a new vocabulary phrase, I was interested in his understanding of the term. While he had heard the expression before in his economics class and recognized it, Evan seemed somewhat uncertain of its precise meaning. By relating it to *psychics* and *psychology*, he soon came to a better idea of the concept.

When Evan came to a momentary stop, I reminded him of the list of items to write about and asked what someone would need in choosing a career. He restated the need for education, recalling statistics about the lifetime income differences between high school and college graduates that he had heard previously. Then he moved into a more personal realm. "My interest is in computers...programming and software design." Repeating the idea of "programming computers" several times, Evan then noted that he intended to

go to a local technical college to get his training. "My dad graduated from there also," he added with pride. After outlining his plans, Evan then agreed that he was ready to write.

Evan's first draft of his summary/response to the passage was quickly done. Within five minutes he had written fourteen lines in his fairly small penmanship. He did not stop to formulate or rethink what he was writing. After adding two more lines he quit and said that was all he had to say. Content with his efforts, he left the room. As I looked over his writing, it was interesting to note that his composition was much more coherent and organized than his talk had been. He covered most of the same main points (need for college, his previous report, *psychic income*, his own plans), but then he went on to include several other items from the article itself, even mentioning the <u>Occupational Outlook Handbook</u>.

When Evan returned the following day to rehearse a second time and revise his composition, he was paired with another young man, Mark, also a junior. Although they knew each other, beginning the dialogue was very awkward for them both. My explanation of what to do was followed by a long pause. Finally, when the silence had lasted almost two minutes, Evan spoke up. "I'll go first," he offered cautiously. After another momentary pause, he continued, "Well, what he did say is true--you do need to go to college." Mark quickly chimed in, "Yeah, at least high school education or training."

Sensing Mark's basic agreement, Evan's confidence returned and he was off and running again. "New jobs are certainly easier to get if you have a high school education and college degree--say yes to both," he urged. He immediately launched into a scenario that might occur on the job site, quoting the bosses as they considered various workers for a position, comparing their qualifications. Along with pointing out that someone might not be considered

without a college degree, he noted as well, that lack of college can mean that someone doesn't really know what they are doing.

At this point, Mark interjected that is was, "a good idea to have a few interests in jobs. In case you don't succeed, you can fall back on another." Evan paused for a moment to consider this new line of thought and then commented, "You need to get in touch with yourself. You want to find a job that you feel you can succeed in. You don't want to find a job you can't do. You feel down on yourself and it's not your fault. Find a job you can use to your advantage." Mark's statement had apparently caused Evan to reflect on the topic from a new angle.

As Evan and Mark finished their conversation, I reminded them of the *Remember* list. Mark was disconcerted. "We have to write again?" he asked. Evan was more philosophical, but he warned me that "I put mine together good," and said that he would "just add a small bit." Both settled down to work, quickly, however. I realized that, while they were willing to put in the effort for me, they seemed to have little experience with anything more than retranscribing. This was even clearer when Evan chose to simply use what he had written the previous day as the beginning of his composition. Contrary to his warning, however, he then continued on at some length, eventually taking his original draft of 141 words and extending it to 277 words. His final version reads as follows:

> This article I just read was about career decisions. The author of this article was trying to point out that the college education is very important. Since I did a report on this I know some background on this. The psychic income which he stated was very moving to me in a way. I think I use psychic income because I am trying to pursue a life in computers and I am going to the Technical Institute in Concord, NH to pursue this. The author tells us to try to look for something you like and pursue that goal. He even says look in the Occupational Outlook Handbook for ideas on a career. He also says going to college pays off in the long run

> *because the knowledge you just learned from going to college will help you with your job.*
>
> *Pursue a career that best suits you don't hesitate to try new careers find one that you like and go all out for it. You may seem at the beginning that you aren't doing a good job but actually you are. The bosses upstairs may notice your work habits and when they view your profile they will see that you do have a high school diploma and you do have a college degree. If your boss sees that on your profile then you are likely to get the position but if he sees no college degree but a high school degree he's going to pick the person with the college and high school over the person who only has a high school diploma. That's why college and high school are important these times of the year.*

Evan completed this composition in fifteen minutes and seemed pleased with his work. I was struck by his ability and willingness to extend his thoughts in writing in spite of his earlier comments.

Writing without Rehearsal

The next stage in this project for Evan was to write about "Teenager in the Market" without rehearsing first. His approach to this task was much more low-key. After I read the article, he sat down and wrote. Stopping occasionally to scrutinize the text intensely, he completed his draft of 114 words in eight minutes.

Evan's demeanor when he returned to revise the essay was similar. He worked steadily and quickly. As he finished up in seven minutes, I asked if he had anything more to add. Saying he had written all that he could, he handed me this composition of 114 words:

> *I learned in this article that most teens are spending most of their money on CDs, tapes, etc. . From my point of view I'm one of them also but I buy different things. Instead of CDs and tapes I buy computer games, CD Roms, modems, chips, etc.. I learned that 50 percent of all families with teens has a full time working mother and 20 percent have part time. There are four groups. Socially driven, the Diversely motivated, the socioeconomically introverted, and the sports oriented. It was amazing that the 1980's we spent over $65 billion. I was actually shocked to hear it. $65 billion that's alot of money to be spending for teenagers.*

When I compared this final version to the earlier draft, I found that Evan had simply retranscribed the first essay. He had included considerable information from the article, but had elaborated very little. Later Evan told me that in this composition he had just "followed what the guy did--not my own perspective." Evan seemed to have lost the personal involvement and enthusiasm that had marked his earlier efforts.

Comparison of Compositions

On first glance the most striking difference between Evan's compositions written with and without rehearsal is in length. He wrote more than twice as much and his word choices were more diverse after talking through the material than when he worked independently. Evan's willingness and ability to continue thinking and composing at greater length caused changes in the quality of writing as well, however. Close examination of the two essays reveals significant differences in terms of Evan's ability to understand what he read and to integrate the material and his reactions into a coherent whole.

When he read the "Teenagers in the Market" article and did not talk with anyone before writing, Evan approached the material in what seems to be an inverted order. Starting out by qualifying what he says, *I learned in this article,* Evan then recounts one small detail rather than providing an overview of the topic. Interestingly, the next part of his statement, *that most teens are spending their money on CDs, tapes, etc.,* is not even accurate in light of the text itself. For one thing, CDs and tapes are not even mentioned; for another, the emphasis of the article is on a much broader range of teenage spending. Using this "fact" as an introduction does give Evan an entry point for his own experience, however. Again qualifying his statement as *my point of view,* Evan notes that, *I'm one of them also but I buy different things. Instead of CDs*

and tapes I buy computer games, CD Rom (CDs), modems, chips etc. It does seem that Evan has understood that teenage spending patterns are key to this article, but he has not expressed that in his first sentences. Instead he leaves his reader confused as to his point.

In the middle of his essay, Evan recounts two significant facts given in the text. The first he again introduces them with *I learned*. While he then accurately restates the fact that *50 percent of all families with teens has a full-time working mother and 20 percent have part time*, Evan does not elaborate on it at all. Why the author quoted this information seems to be lost on him. Not only does Evan restate the fact rather awkwardly, but he makes no connection between this fact and teen spending habits. His next statement would be equally confusing to a reader trying to understand his point. *There are four groups*, he writes. *Of what?* a reader might well ask. Continuing, *Socially driven, the diversely motivated, the socioeconomically introverted, and the sports oriented*, Evan still provides no explanation. Because he has not laid the groundwork for such a concept, this "fact" without explanation or integration into the rest of his essay gives the impression that Evan does not understand what the author has tried to say about these groups. Although he uses some new vocabulary words, there is no reason to think he is comfortable with their meanings.

Finally, in the last few sentences Evan gives a personal reaction to the "Teenagers in the Market" article that touches on an overall view. *It was amazing that in the 1980's we spent over $65 billion*, he exclaims without explaining who *we* are or that this is more important to the main idea of the article than his introductory statement about CDs and tapes. Continuing his personal reaction, Evan finishes his essay with, *I was actually shocked to hear it. $65 billion. That's a lot of money to be spending for teenagers*. By

mentioning *spending* and *teenagers* together in the end, Evan does manage to give some connection between the beginning and the end of his composition. If he had elaborated on the facts contained in the middle, he might have been able to make more connections and to integrate the ideas much more successfully.

Evan's failure to make more connections in this essay contributes to a confused approach that compromises clarity and coherence. While he does include information from the original article and draws from his own experience and reactions as well, Evan leaves his reader wondering what his actual point might have been. Starting out his essay with a small detail and moving through other facts from the text, Evan does not give the reader any indication of the broad topic of the reading until he betrays his personal reaction at the very end. His use of personal qualifying statements throughout the composition gives the impression of lack of confidence rather than a sense of authority. These pat expressions such as, *I learned*, that introduce several of the ideas may well be devices Evan uses to aid his retrieval, but they make his composition more of a list than a coherent whole.

The introductory sentence in Evan's "Career Decisions" essay, written after talking through the article with me and with Mark, signals a change in approach from the "Teenagers in the Market" composition. *This article I just read was about career decisions,* he announces immediately without qualification, providing the overview that comes only at the end in his other essay. Then he narrows the topic to one idea that he found compelling, writing *The author of this article was trying to point out that some college education is important.* Having clearly cited the author for that idea, Evan then moves to a personal statement, *Since I did a report on this, I know some background on this,* to assert his own authority.

In the next sentence Evan returns to the content and vocabulary of the article itself. Picking up on the less familiar term *psychic income*, Evan links it to his own experience. While his sentence is slightly awkward, *The psychic income which he stated was very moving to me in a way,* he does manage to integrate the new terminology in a meaningful manner. His next sentence confirms that he understands the concept although he is not yet smooth in using the words. *I think I use psychic income because I am trying to pursue a life in computers and I am going to the Technical Institute in Concord NH to pursue this*, he asserts.

Evan's feeling for the idea of psychic income then leads him back to another thought expressed by the author of the article. Evan restates the reasoning that has led him to talk about his own plans, *The author tells us to try to look for something you like and pursue that goal.* To support that more general concept, Evan then adds a detail from the text, *He even says to look in the Occupational Outlook Handbook.* This reference is appropriately placed at this point his summary/response and adds to a sense that he is in command of the subject matter. Evan's final line in the first paragraph uses complex sentence structures to link several smaller ideas into a coherent restatement of the author's point of view, *he also says going to college pays off in the long run because the knowledge you just learned from going to college pays off in the long run.* The sentence also harks back to the approach Evan used at the beginning of his paragraph.

Evan will expand on this last idea in the second paragraph of his essay. It is interesting to examine the two parts of his composition both as a separate entities and in relation to each other (a continuing whole) because of the process Evan used in writing. The first paragraph, which he kept largely untouched when he revised, was composed after his initial oral rehearsal with

me. It could actually stand alone in comparison to his essay written without rehearsal. When looked at separately, it is more coherent (even providing the reader with cues to its structure) and integrates the information from the article much more successfully than does the "Teenagers in the Market" summary/ response. That Evan chose to continue writing and to expand on his ideas in a second paragraph suggests that his rehearsal with Mark both prompted additional thoughts and motivated him to express his personal views.

In the second paragraph Evan quickly restates the author's point of view, but rather than quoting any longer, he makes a personal plea. *Pursue a career that best suits you*, he urges. *Don't hesitate to try new careers*, he continues, *Find one that you like and go all out for it.* In a familiar, informal tone he addresses the reader with this three-stage piece of advice. Then he adds a note of reassurance, *You may seem at the beginning that you aren't doing a good job, but actually you are.* While his use of the verb *seem* is somewhat awkward, his other words make the reader realize he means that they might *feel* they are not doing a good job, not that others think so.

To support his reassurance and advice, Evan quickly delineates a scenario, detailing what might actually happen behind closed doors when someone is considered for a new position. Taking the tone of personal experience and authority, he writes, *the bosses upstairs may notice your work habits and when they view your profile they will see that you do have a high school diploma and you do have a college degree.* The parallel structures Evan uses in this statement, reinforced by the repetition of *you do*, make it seem almost like an exhortation. Following this positive declaration with clearly delineated alternatives, Evan continues, *If your boss sees that on your profile then you are likely to get the position.* To be sure his point is well taken he stresses the other possibility as well, *But if he sees no college degree but a high*

school degree, he's going to pick the person with the college and high school over the person who only has a high school diploma. Almost as an afterthought, Evan adds, *That's why college and high school are important these times of the year.*

Evan's personal engagement with and integration of the material from "Career Decisions" are clearly evident in this essay. While his word choices and sentence structures are at times slightly awkward, they flow more smoothly than those in the "Teenagers in the Market" composition. Evan is much more successful in his use of complex sentence structures to link ideas and to transition between the thoughts of the author and his own reactions. This contributes to the overall coherence of his writing. Most importantly, however, Evan's voice comes through with authority and enthusiasm in the "Career Decisions" summary/response. He is in charge of the subject matter and senses the importance of what he has to say. For Evan, the process of talking through the subject matter and eliciting his own ideas and reactions before writing was effective in clarifying information, in making coherent connections between ideas, in establishing a relationship with his audience, and in speaking in a clear, persuasive voice.

Reflections

As I had suspected he would, Evan had much to say when we talked later about the process we had followed in this project. His own insights into his experiences with both texts helped to clarify my understanding of what talking before writing about a new subject can accomplish. Although he quickly admitted that he preferred the "Career Decisions" article anyway just because of the subject matter, Evan reassured me in the next breath that talking through the information was key both to his comprehension of what the author was trying to say and to his writing about it coherently.

When I asked Evan whether talking about the text affected how well he understood what he read, he replied that it did because "you got to hear the other person's point of view also and then you would tell them yours. And then you would conference on that and maybe come up with one that combines both of them...to write on." Evan clearly valued the collaboration with another person. Discussing the article seemed to give him time to explore and assimilate the material. It also helped him to remember what he had read. Evan noted insightfully, "Anything that is voice or visual, I keep in the back of my head so I know what they said. With reading, I read it, I write, and then I forget about it until I get the paper back." Oral rehearsal clearly improved Evan's memory of the passage contents. By integrating the information into a generalized understanding and by having a conversation he could recall rather than just words on the page, Evan found he could avoid the "read...write ...forget" syndrome.

Talking through the article with someone made a significant difference as well to the ease and fluency with which Evan wrote. "The aspect of talking *inspired* me," he commented. When he would begin to run out of ideas, "I would remember what he [Mark] said." Given his very positive response to the use of oral rehearsal before writing, I asked Evan if he normally talked through what he had to write about for classes. "No," came his reply, although he immediately added that he had noticed before what a difference his dramatizations made when he wrote with his Palladium group. Apparently, he had just not made the connection that this strategy might prove useful with required school writing as well.

Thinking that perhaps the friends in his role-playing group made a difference in his level of comfort, I inquired whether Evan had known the student with whom he conferred in the second rehearsal. Noting that he did

know Mark although they were not necessarily close, Evan quickly went on to say that who he was talking to did not matter. He had been equally comfortable with both me and with Mark, he said, but that was not the point anyway. When he talked through some new material with someone, "I'm not looking at them. I'm trying to read...to hear the article from their point of view." To stress his belief that it was the process rather than the person, Evan added emphatically, "You could put *Godzilla*...talking through the article," and it would make no difference to him.

When he did not discuss the "Teenagers in the Market" article before he had to write about it, Evan was clearly less content. "I just took what the guy said and put it into my own words," he told me, going on to mention, "I wrote less than when I got talked to because I had less information." He enjoyed that text less, he pointed out as well. It had not made as much sense to him and he did not feel that he knew what he was doing when he was asked to compose a summary/response. Evan noted that he often had trouble figuring out what to say when he had to write, but that it depended to a large extent on whether the topic would "strike" him. His comprehension of the material and his resulting confidence level seemed to be underlying issues in Evan's ability to write successfully.

In our discussion of his experiences in this project, Evan emphasized the personal importance of talking through new information. For the most part, however, he seemed to link his increased understanding and written fluency to having *listened* to another person's point of view. While in both rehearsals his had clearly been the dominant voice, Evan did not express any sense that his own talk had influenced his ability to think or to write coherently. Only in recounting his experiences with fantasy role-playing did he admit the significant effects that talking and visualizing had on his writing.

An examination of Evan's behavior during his participation in this project and of the compositions he wrote as a result suggests a broader range of effects of oral rehearsal than he would acknowledge spontaneously, however. While he seemed very much aware of the increase in his comprehension of what he read, Evan apparently did not sense to the same degree the significant shifts in both coherence and integration of new material when he orally rehearsed before writing. Evan's first rehearsal, starting out as a confusing melange of words and ideas and ending in a relatively organized conceptual framework, reflected many of the changes that would later be mirrored in his writing. Evan's greater overall understanding of the material and his more focused approach caused major changes in his written summary/response. As a result of the opportunity to rehearse orally, Evan was able to forge a relationship with his audience and to take on an air of authority when he wrote about "Career Decisions." Clearly, the ideas he had placed "in the back of my head" had proven valuable when he needed to write in response. In this case Evan did not *read, write, and forget.*

Profile 5--Alex

A variation on the theme filtering through the other student profiles is evident in Alex's response to this project. An introspective young man with blond curly hair whose quiet demeanor belied his prowess on the soccer field, , Alex had already reflected on strategies that worked for him when he sat down to write. As a result, he had learned how to be successful composing for class assignments and was willing to invest the time he knew was required. Unlike many other participants, Alex did not dislike writing. Rather, he was well attuned to teachers' instructions and worked carefully to complete each task. While it was not necessarily easy for him, Alex commented with a shy grin that his efforts generally brought positive responses.

It was evident even in the initial interview that Alex preferred having specific guidance in how to approach any individual assignment. Once he understood the parameters clearly, he was quite content to work independently. Noting that he did most of his writing for English class, Alex had developed a plan for writing about various books and content area readings. He would simply figure out the main ideas and then try to "put it so it all makes sense." To do this, Alex would usually compose at the computer. Rather than being selective at this preliminary stage, he would write down everything he knew. If the teacher had given clear instructions about structuring an essay, he would use their advice to decide where to put particular ideas. Once he had all his thoughts recorded on the computer, he would print out and examine the whole.

One significant difference between Alex's writing process and the steps followed by most of the participants was that he would actively revise his writing. He related how he would review the printed copy and try to put his

thoughts into better form. To determine what changes needed to be made, he would usually read the entire essay out loud. That way, he noted, he could see if it "sounds right." When I asked if he read it *to* anyone, Alex responded that he just did this by himself most of the time, but sometimes he would talk to his teachers to get their feedback as well. For the most part, he would listen for words that did not sound right and take them out. His next focus would be the sentences. Alex remarked that he could generally tell if they flowed the way they should, but he had trouble knowing where the commas and periods should go in longer sentences.

Alex's more mature approach to his writing and his insights into his personal strategy were partially due to the fact that he was a senior and intended to go on to college. He took his school work seriously and liked to do well. While he clearly had the ability to attend to all the demands placed on him in high school, his quiet, thoughtful style required adequate time for him to produce work that was commensurate with his ability. Fortunately, he had learned how to pace himself. Mindful of his own style, Alex knew that he would not expect any piece of writing to meet the requirements of the assignment with only one draft. Rather, he understood that writing for him was a two stage process of first getting ideas out on paper, and then of refocusing and revising his words in a second copy. As he talked about how he experienced school, it seemed that Alex required a "warm up" for any new learning, exploring his own understanding before he could reflect it in writing.

Alex's quiet manner and reticence made me suspect that he would indeed be an appropriate candidate for this study. His challenging college preparatory courses suggested considerable ability. While his metacognitive insights about how he learned were more sophisticated than most of the other participants, he did seem to have difficulty generating language quickly. I was

especially interested in whether oral rehearsal would make any differences to the written products of someone like Alex who had already integrated personal strategies into his process of writing.

Standardized Pre-testing

Whether my suspicions that Alex had difficulties in retrieval would be supported in the pre-testing was my next concern. The <u>Peabody Picture Vocabulary Test</u> (Dunn & Dunn, 1981) quickly confirmed that his receptive vocabulary was in the average range. In fact, his standard score was 100 which placed him precisely at the 50th percentile. Although he had a few scattered errors such as *peninsula* and *quartet* earlier in the test, most were less familiar words (e.g., *inclement* and *waif*) that were concentrated in a group as Alex reached a ceiling. His performance on the <u>Peabody</u> reflected a solid understanding of most words that are used in high school reading texts.

With his mastery of receptive vocabulary clearly established at an average level, Alex's next task was to complete the <u>Boston Naming Test</u> (Kaplan, Goodglass, & Weintraub, 1983) to compare his ability to retrieve words quickly and accurately to that knowledge. While he was able to recognize and name the early items easily within the twenty second time limit, Alex paused momentarily before identifying a drawing of a *globe* and was unable to name a *harmonica* and an *acorn* until he was given a phonemic cue. As he progressed through the remainder of the test, Alex demonstrated similar difficulties with some other items. When shown a picture of a *compass*, for instance, he called it a *protractor*, confusing two items with a close association. Faced with a drawing of a *tripod*, Alex knew that its name started out *tri-*, but could not complete the word. An interesting phonological error was evident when he called the picture of a *sphinx* a *lynx* instead. Alex's score of 47 on the <u>Boston Naming Test</u> was indicative of word retrieval skills close to two

standard deviations below the mean. He was able to name more than half of the pictures he had originally missed when he was given a phonemic cue.

Alex's performance on the "Divergent Production" subtest of the Fullerton Language Test for Adolescents (Thorum, 1986) gave further evidence of his difficulties with retrieval, this time in a more spontaneous format. His responses in all the categories were thoughtful, but more limited than would be expected. This was particularly apparent when he was asked to name *different parts of the body, different types of grocery store items,* and *different subjects in school.* Alex seemed to have no system for eliciting a larger number of items, either by visualization or by association. His score of 40 on the "Divergent Production" subtest was approximately one and one-half standard deviations below the mean of 62, indicating a weakness in generating language in a spontaneous format. Given his shy manner and the difficulties evidenced in the pre-testing, I wondered whether oral rehearsal would be helpful because he generated language before writing or whether Alex would consider it an intrusion on his writing process.

Writing with Rehearsal

Alex's group was first asked to summarize and respond to Text 1, "Teenagers in the Market" after rehearsing orally. Since he was still rather reticent with me, I had no idea how spontaneously Alex would be able to talk about the article. When he began with an overview statement, "It's about teenagers buying things in the market and about how much they buy," I was quite pleased to sense his understanding of the passage's focus. As he continued, Alex inserted a few "...and, uh.." fillers, but he was clearly on topic and grasping the main ideas. "It was like 85 billion dollars," he started before glancing back at the article and self-correcting the amount to $65 billion. Then he went on to note that, "It's easy for them to buy because they have jobs, and

they do a lot of shopping for their parents...family." Although he wasn't sure why they were doing more family shopping, Alex pointed out that they had a voice in "electronic stuff or whatever."

During this first part of his rehearsal, Alex proceeded with some fluency to describe the concept behind the article. While he was not yet employing the vocabulary from the passage itself and was using some vague phrases such as "stuff," "a lot," and "like," he was able to communicate the gist of the text quite successfully. When he had trouble with details, he referred back to the printed copy to verify what he remembered. Without pausing for any appreciable time, Alex was able to construct some complex sentences to begin linking ideas. This was a welcome change from the introductory remarks in many of the first oral rehearsals.

Alex's next comment signaled a change in his talk about the article. "This was the first part," he noted, "I don't remember the last part." Although I assured him that it was quite permissible to refer back to the text, it quickly became clear that Alex was having greater difficulty with the material in the second section of the article. Hoping to encourage additional comments, I prompted, "What about the four groups?" In response, Alex read the names of the four groups from the printed copy. All his former fluency seemed gone as he struggled to understand the terms. I asked if he knew kids in each of the groups and he replied simply that he did, but offered no further information.

Finally, Alex ventured to comment on the groups. The Socially Driven "might talk a lot" and were "driving to get a lot of things," he suggested. After reading that the Diversely Motivated were "energetic and adventurous," he looked puzzled and asked for an explanation of *diversely*. Although he tried to discuss the Socioeconomically Introverted, starting out, "They spend money only on...," he stopped abruptly and noted that he did not understand what

solitary pursuits were. After I explained that *solitary* meant *by yourself,* he tried to give examples, but he could not think of any. Alex was clearly relieved when he got to the Sports-Oriented group since he could easily comprehend their interests.

This change in Alex's rehearsal suggested issues of comprehension, fluency, and confidence. Apparently, the more sophisticated terms used to describe the four groups took some time to integrate into his understanding. As a result, it was harder for him to relate them to his own experience. Once he had spoken their names and asked for clarification of word meanings, however, he returned to the main topic of the article. In explaining why marketers bother to gather information about teenagers, he remarked that "it shows them the kinds of things that kids buy." As he finished discussing the passage, Alex added that this process of marketing could also happen with other groups "like older age people."

Although he had certainly understood the gist of the "Teenagers in the Market" article, Alex found the details and vocabulary difficult to assimilate on first reading. In addition, when he was asked to start composing a summary/response, he realized that he was not sure how to proceed directly with the task. These difficulties combined with Alex's previous understanding on his own writing style resulted in a most interesting approach to his first written draft. Rather than attempting to compose an essay integrating the information in the text, he used his personal strategy for writing first drafts and began to write out everything he knew about the topic. To do this, Alex relied on the *Remember* list to guide his thoughts. Not only did he take each item on the list in order, but he even numbered them accordingly.

Alex completed his first draft of 378 words in twenty minutes, having stopped only twice, once to sharpen a pencil and the second time to ask if it

was "okay" that he "sort of put #3 into #4." By approaching the drafting process in such an orderly manner, Alex was able to report generalizations, personal reactions, key ideas, details from the reading, and examples of how he could use the information. As he wrote, Alex was able to explain the four groups in much more detail than he had in his rehearsal. He could give examples of each and even discuss which category he felt would represent his interests. In response to the request for ways to apply the information, Alex wrote that if he sensed they were *putting more and more commercials about buying sports equipment...just because they knew that my group would be attracted to it, then I would probably stop buying them*. In writing out the material and his own reactions, Alex had clearly done additional thinking about the content. Whether he could have done this so thoroughly without talking first, particularly using the new vocabulary appropriately, was a question that came to my mind that would merit exploration later.

When he returned to complete the second rehearsal and the revision of his first draft, Alex was paired with another young man, Sam, a junior who was equally quiet. My explanation of this second phase was followed by a long, silent pause. Both Alex and Sam began re-reading and editing what they had already written rather than talking with each other. Disconcerted by their silence after several minutes, I returned and pointed out the *Remember* list. I suggested that they simply discuss each item and see if they could agree on the major points. After another shorter pause, Alex asked Sam if he wanted to start and volunteered to begin himself when Sam declined.

Responding to item #1 on the list, Alex summarized the main ideas of the text, quickly mentioning that the article was about how teenagers buy and then relating thoughts about why they do household shopping and why they now have more money of their own. Noting how much money they spend, Alex

then remarked, "Evidently there's four groups that teenagers are put into."
This time he was able to recall the name of each group and to explain the
habits of the teenagers with those interests. The Diversely Motivated, for
instance, "want to do a lot of different things." After Alex finished his lengthy
summary of the major ideas, Sam began with a response to #2, personal
reactions. The topic then turned to "going into stores" and both Alex and Sam
commented that they "did not want to be part of the $65 billion dollars." Both
were sensitive to the concept that teenagers were being categorized so that
others could make money. Alex added that he did not feel the groups were
exclusive anyway; "I believe that a person can fit into all of those...some more
than another," he observed.

When they finished discussing, Alex and Sam asked how the revision
should be different than the first draft, but then started writing without
hesitation. Alex wrote more quickly than Sam, completing this essay of 211
words in eleven minutes:

> *Teenagers these days are buying more and more objects per
> year than ever before. I can't believe that they spend $65 billion a year
> on things. There is more bought because more kids have jobs, and the
> money is available to them easier than it is for kids who don't have
> jobs. Kids even are buying things for the household now, like shopping
> because more and more parents work. The four groups that the
> teenagers are put into according to their buying status, I don't really
> think is true. Because all kids I think can be put into any group. I
> think that every kid sometime in their life has bought something from
> each of the four groups. I don't think it's just been a lopsided splurge
> on one kind of group, for a person. I think one thing they forgot to put
> in as one of the groups is food. I think kids buy fast food things alot
> more than they do other things. I would think that food and especially
> fast food, is the most bought thing for teenagers in the United States.
> Knowing what I know now about the four groups, I don't think it
> changes anything. I'm not worried about my buying or being in a
> group.*

Before leaving, Alex noted that his composition was more compact this time,
but that he thought he had included all the important information. As he

departed, I reflected on this oral rehearsal. These two were well-matched in terms of intelligence, retrieval difficulties, and how much they had written in their first drafts. Given the long silence at the beginning of their discussion, however, I wondered if they were too much alike, too quiet together. I questioned whether one quiet person should have been paired with someone more talkative for an oral rehearsal. That would be another issue to explore later.

Writing without Rehearsal

When Alex returned to complete the second portion of the project, he was asked to read the "Career Decisions" article and to write about it without talking it through first. This time he did not seem uncomfortable with the task since he already understood the expectations and how to use the *Remember* list as a prompt. Always conscientious, Alex quickly set to work and wrote steadily for 17 minutes without asking for any assistance. When he had completed his essay of 237 words, Alex turned in his paper and left the room quietly.

Given the opportunity to revise his essay on another day, Alex again settled right into work. This time, however, there were some pauses in his process. After writing quickly until he had finished six or seven lines, he stopped for a minute or two to think. Alex started up again spontaneously, continuing for several minutes until he again paused. With a final spurt of writing, he finished his essay of 162 words seven minutes after starting:

> *There are tons of jobs out there for everyone, but the only hard part of getting a job is knowing what occupation you are interested in and where to start. The Bureau of Labor stated that it may not be necessary to have a college degree, just to have a good paying job. Only one job out of every four requires a college education. To pick a job that you think you will like, you have to identify your personal strengths and skills. Such as communication, social work, computation, investigation, manual work, creative efforts, interpersonal relations, and management. It's important to go with a*

job that you like and that lets you have free time, like being with your family or friends. Money isn't everything. I think that reading this can really help you choose an occupation that you will enjoy and that you can live off. It's helpful for me, reading this because now I know how to pick an occupation.

Throughout the writing without rehearsal phase, Alex was very cooperative and conscientious about his efforts. He later told me that he had much preferred the "Career Decisions" article because he understood it better than the "Teenagers in the Market" one. As a result, he was more comfortable and felt he had more to write about.

Comparison of the Compositions

Both of the essays that Alex wrote for this project are informative and coherent in terms of sentence links, overall structure, and cues for the reader. By using his personal strategy of writing out all he knew in the first draft and then being more selective and organized as he revised, Alex was able to summarize and to respond to both "Career Decisions" and "Teenagers in the Market" even though his initial reactions to the two articles were different. More comfortable with "Career Decisions" because the subject matter was relevant to his current concerns, Alex reflected his understanding in a composition written immediately after reading the text. Although he experienced more difficulty with the concepts and sophisticated vocabulary of "Teenagers in the Market" when he first read the article, Alex talked it over before he wrote. While both resulting essays are well-written, they reflect very different levels of the integration of the material, the personal engagement, and the originality that contribute to a confident and expressive voice.

Examination of the first drafts of Alex's two essays provides some insight into the process that caused these changes. When he wrote about "Career Decisions" without talking it through first, Alex wrote his first draft as an essay that followed through each idea in the original text sequentially, often

even using the language of the article itself. When the terminology in the text was less familiar, he would translate the ideas into his own words. Once he finished this summary, Alex wrote a few sentences about why this was interesting to him.

In contrast, when Alex orally rehearsed and then wrote the first draft about "Teenagers in the Market," he modified his usual system. Perhaps this was because the assignment was still unfamiliar at that point or because he had experienced more difficulty with the subject matter initially. As a result of following the *Remember* list rather than just rewriting the original article, Alex numbered his paper accordingly and then spent time elaborating more about each item. This first draft could not really be considered an essay, but it contained all the ideas and reactions that he would need to draw on in the revised copy.

With these two very different first drafts, Alex then revised each. After re-reading his "Career Decision" summary/response, he proceeded directly to rewriting. As a result of his thoughtful approach, the final copy is a distilled version of the first. Alex starts out with an overview sentence appropriate to his point of view, but it is not entirely consistent with the article. If *there are tons of jobs out there for everyone*, it is not clearly stated in the text. The second part of the topic sentence, *the only hard part of getting a job is knowing what occupation you are interested in and where to start*, is much more relevant to the passage's content. Although using *but* to link the two clauses (an addition to his first draft) seems awkward, the sentence does introduce Alex's topic quite successfully.

As he continues with his summary of the article, Alex follows the author's format closely. He picks out each important point, putting it into his own words while still borrowing phrases from the text. After referencing the

Bureau of Labor and noting that *only one job out of every four requires a college education,* he introduces a new thought with *to pick a job that you think you will like,* but then quotes almost directly from the text, *you have to identify your personal strengths and skills. Such as communication, social work....management.* Interestingly, the article itself and Alex's first draft use the phrase *strengths in skills* which would have linked more smoothly to the list of skills. Rather than tackling the new vocabulary phrase *psychic income,* Alex refers to *free time,* but the close meaning he assigns is clear from the context since he adds, *like being with your family or friends.* He uses the author's words, *Money isn't everything,* quite effectively to convey his thought. The last two sentences of Alex's essay provide the response portion of the essay in which he confirms the relevance of the article both to the reader and to himself. *It's helpful for me, reading this because now I know how to pick an occupation,* he ends.

The overall effect of Alex's essay about "Career Decisions," written without rehearsal, is that of a generally well-stated summary/response paper. Alex includes the major points of the first part of the article, and then he responds to the worthiness of the information. He does not attempt to utilize the new subject-specific vocabulary, however, nor does he include any of the suggestions in the last section of the text concerning more detailed sources of information. While he tells us at the end that the article was helpful for him, Alex gives no sense of what information was the most salient for him, whether he found any of the job facts surprising, and just how he might find the material helpful as he begins the process of picking an occupation. In short, his composition fulfills the task, but it remains largely impersonal and relies on the author's schema for organization rather than Alex's own.

Alex's approach in his "Teenagers in the Market" composition is quite different. Rather than simply summarizing the article in the first part, he integrates facts from the text with his own reactions and elaborations throughout the essay. His overview statement that *teenagers these days are buying more and more objects per year than ever before* immediately gives a sense of perspective. Alex heightens the effect with his spontaneous reaction, *I can't believe,* that incorporates an important fact, *that they spend $65 billion a year.* The next two sentences use varied structures, complex or compound/complex, to convey a sequence of linked facts from the text: *There is more bought because more kids have jobs, and the money is available to them easier than it is for kids who don't have jobs. Kids even are buying things for the household now like shopping because more parents work.* With these few sentences, Alex has introduces the major ideas from the text although he has eliminated many of the finer details included in his first draft.

In the next portion of his composition Alex moves from restating and reacting to information to revealing his own personal viewpoint and response. As he introduces another idea of the author, *the four groups that the teenagers are put into,* Alex adds a more sophisticated descriptive phrase, *according to their buying power,* that is not found in the original text. He immediately links this statement to his own comment, *I don't really think is true...because all kids I think can be put into any group,* and broaches the first of two original ideas. Although he had used the author's names for the four groups and defined them in his first draft, Alex does not use those new terms in this copy. Still, he takes issue with the author's concept of such groups based on his own experience, noting that kids tend not to buy in a *lopsided splurge* on any one group. Then Alex expands the perspective about teenager's buying power with second valid

and original observation that *food, and especially fast food, is the most bought thing for teenagers in the United States.*

Alex's final statements address his reactions to the marketing strategists. While it would have been helpful for him to explain the background to his comments more, his remarks suggest that he has carefully considered the ramifications of the marketing strategies discussed in the article and used his insights to form an opinion. This type of assertion, *I'm not worried about my buying or being in a group,* reveals Alex's personal engagement with the material in the text. Understanding how teenagers can be manipulated by the marketers, Alex has made a decision about what it means to him personally.

Both the essays that Alex wrote in response to articles in this project were well-written and would fulfill the requirements of the task. In his reaction to "Career Decisions," however, Alex remained more detached from the topic and as a result did not integrate the material in any type of personal framework. No original ideas or reactions were added to expand and to shape the reader's perspective. He makes only one comment that the article was helpful. In contrast, when he rehearsed orally before writing and revising his composition about "Teenagers in the Market," Alex integrated facts and his reactions throughout his account. As a result of this melding of subject matter and response, Alex was able to add original ideas growing out of his personal experience. Clearly he was more personally engaged in the subject of "Teenagers in the Market" even though he had initially found it the more difficult article to approach. Consequently, Alex is also more able to engage his reader in this essay.

Reflections

Later, when I asked Alex to compare his essays and to comment on their effectiveness, it was clear that he sensed the difference in engagement.

He personally preferred the "Career Decisions" writing because he felt he "put things together better," but he also thought that the "Teenagers in the Market" essay would be "more interesting to whoever reads it." Somehow Alex had transformed the information in the article about teenage buying power from just facts about marketing strategies to an insightful response that shared some of his own experience. To understand how this happened, it is helpful to look at all the writing Alex did for this project, not just the final copies.

An examination of Alex's first drafts for each of the articles reveals strikingly different approaches. When he wrote about "Career Decisions," Alex already knew how to complete the task and he went straight to work without a word to anyone. The first draft he produced is 237 words, compared to 162 words in the final copy. Aside from the length, the two compositions are quite similar, however. In the first draft Alex simply included more of the facts from the original text, often verbatim. While he did mention some of the material from the latter part of the article that was missing in the final copy, Alex did not give any more personal reactions nor did he elaborate on the information based on his own experience.

The "Teenagers in the Market" first draft is, as noted earlier, in a singularly different form. In an attempt to complete the task as requested, and possibly because he had struggled to understand some portions of the article, Alex used the Remember list as a literal guide for his writing. As a result, he numbered and wrote out his responses to each prompt. This first draft is extensive, comprising 378 words. Due to his choice of format Alex could not simply rewrite the article in his own words as he did with "Career Decisions." Instead he reformulated his thoughts, elaborating in many directions as he wrote. Although he eventually discards much of the

information he includes in this first draft, distilling his summary/response to 211 words in the final copy, Alex engages the original material at an entirely different level in this type of first draft. The much more personal integration of the material with his responses and his experientially-based elaborations (e.g., fast food as an additional group) in the "Teenagers in the Market" revised composition seem largely a result of his more thoughtful approach to the first draft.

One of the questions that had occurred to me when I first spoke with Alex about his writing was whether oral rehearsal would prove helpful to someone who had obviously already integrated personal strategies that were successful into his writing process. The differences between his "Career Decisions" and "Teenagers in the Market" compositions would suggest that indeed some positive changes took place. Although his essay composed without rehearsal was quite acceptable in terms of content and structure (and would probably have earned him a good grade in a typical class), it lacked the insight and creative ideas that Alex was able to incorporate when he talked before he wrote.

Clearly, Alex's comment that the reader would find his "Teenagers in the Market" summary/response more interesting meant that he understood these differences at some level. On the other hand, he personally preferred the "Career Decisions" essay because he felt he had been able to arrange it better. By following the structure that the author had provided, there was not the need to reorganize the material. His greater comfort with this plan suggests that it is closer to his usual strategy for writing. Whether Alex had sensed any changes when he talked before writing that would be worthwhile enough to shift his writing process was my next question.

When I first asked Alex if he thought talking had made a difference, he said that he did not think it had. As I probed more deeply, however, he did admit that it had changed how well he understood the reading, but not how much of it he remembered. He also acknowledged that it was easier to get started writing because he got more ideas from Sam, but that it did not alter how long he was able to write. It is important to note here that Alex felt he had more to write about in the "Career Decisions" summary/response because he had understood the article itself better. It may also be that Alex had felt his "Career Decisions" composition was more acceptable because it was closer to the type of writings he had more typically completed for his classes. Writing in a more personally responsive voice may not have been his experience in many cases.

In spite of the greater initial difficulty he had understanding the "Teenagers in the Market" article and of the shift in his writing process that it prompted, the essay Alex wrote in response does not reflect any diminished self-confidence. In fact, just the opposite is true. By exploring the topic itself more thoroughly as he talked with me and with Sam, Alex was able to grasp this less familiar material and to expand on the ideas included in the text. He could discern the meanings of the unfamiliar vocabulary and thus comprehend the major concepts they represented. By understanding the language of the article more fully, he could interpret the nuances of the author's point of view. His reactions to the underlying theme of teenager manipulation by marketing strategists is clear in the final sentences of Alex's composition.

Although he personally might not fully appreciate the differences as yet, a careful reading of Alex's two essays points to major changes in comprehension, in the integration of material, and in elaboration based on personal knowledge and experience. These alterations, in turn, contribute to

significant increases in Alex's fluency, not only in ideas, but in language as well. No longer does he rely on the author's structure, ideas, and words to convey his understanding. While the resulting composition on "Teenagers in the Market" may have seemed less *neat* to him, Alex himself could sense how much more effectively its greater insight and more expressive voice could engage the reader.

Conclusions from the Qualitative Profiles

Josh, Lynn, Mindy, Evan, and Alex all started this project with very different facilities in oral and written language as well as strikingly diverse conceptions of how writing should be completed. As a result, their collective experiences with the process and the changes in their written products furnish considerable insight into the effects of oral rehearsal as a pre-writing strategy for high school students with difficulties in retrieval. Their behaviors throughout the process and their retrospective comments lend a human presence to the numbers reported in Chapter IV. The power of their combined voices support the credibility of the less personal statistics and contribute as well to an understanding of how and why oral rehearsal might work for this group of students.

Some of the most obvious changes in their written products were evident in the *accuracy* of student's references to the original article and of their interpretations of the author's viewpoint. This was sometimes a matter of recalling smaller details incorrectly as it was for Evan when he did not talk before writing. It may also have involved the misinterpretation of an entire concept as it did for Josh.

The *clarity* of thought reflected in students' compositions was also affected by oral rehearsal. A portion of the change may be linked to the use of more subject-appropriate words and part may be due to how they structured their sentences. With a physically present audience, students had the opportunity to try out their words and sentences verbally and to get feedback as to how clearly they were expressing their thoughts. When they could see that their words were confusing, they could reformulate their thoughts orally to get the point across. This process was particularly apparent in Lynn's and Evan's rehearsals, and the changes came through in their writing as a result.

Words, sentences, and ideas were all more easily forthcoming as well when students rehearsed before writing. Striking increases in *fluency* were evident in the more extended lengths of compositions and in the greater diversity of vocabulary that students employed in their writing. Their sentences tended to flow more smoothly from one thought to the next. This was particularly obvious in Josh's compositions. Even more importantly, students were more fluent in expressing both their own ideas and the information from the original text. The number of ideas reflected in the essays of Lynn, of Mindy, and of Alex were notably increased when they talked before writing, and these compositions are much richer in details and elaborations as a result.

The conspicuous increases in *accuracy*, *clarity*, and *fluency* of student essays when they rehearsed before writing tended to affect all three of Brostoff's (1981) levels of *coherence* as well. In several of the student compositions written without rehearsal, thoughts were juxtaposed or repeated rather than linked logically. This was particularly evident in Mindy's and Lynn's efforts without rehearsal. An overall coherent structure, the second of Brostoff's levels, was also lacking in these essays. Evan's composition with its facts and responses inverted in order of importance reflected the same difficulty. When these same students rehearsed orally before writing, the structures of their essays were noticeably more coherent on these first two levels, and they even began to give the reader cues to the nature of the framework, Brostoff's third level. These transitional markers were particularly evident in the writings of Lynn and of Alex. The more successful integration of material from the article with their own reactions contributed to greater *coherence* in the essays of all five students profiled.

The final area of change explored in these essays was that of *voice*, perhaps the most overarching consideration of all. Without *accuracy, clarity, fluency*, and *coherence*, it is difficult to write in an effective, expressive *voice*. Oral rehearsal fostered improvements in these specific writing skills for Josh, Lynn, Mindy, Evan, and Alex. Drawing on these changes, they each increased the power of their voices in a more personal, dynamic manner when they talked before they wrote. While the more individualized situation itself fostered greater ease of expression for shy students like Mindy even when they did not speak first, only after oral rehearsal were all the students more able to take the information from the article and to assimilate it into their own frameworks so that they could express their viewpoints with authority and insight. Evan's and Alex's essays provide excellent examples of the changes wrought by this personal engagement with the subject matter that led to reformulation of content-area material into an individual framework for understanding and expression.

When they were able to rehearse orally before writing, all five students increased their knowledge bases and self-confidence. Even previously unfamiliar material became the foundation for new insights. Students' word choices became more descriptive and precise. As writers, they were more likely to use stylistic or rhetorical devices and to address their words directly to the reader. As a result of these changes in particular features of writing that combined to create meaningful wholes, these five students wrote with more powerful, persuasive voices.

An account of these significant changes in students' written products reflects only part of the importance of these profiles, however. Students' reactions to the procedures and their comments about their own learning processes are equally critical to an assessment of how oral rehearsals must be

structured to be effective as a pre-writing strategy for students with difficulties in retrieval. Writing a summary/response type essay was an everyday chore for these students because of their experiences in high school classes. Still, writing about content-area topics that were less familiar caused concerns for them all. Part of their success in completing the assigned task with greater *accuracy, clarity, fluency, coherence,* and *voice* in this project resulted from how this particular experience was structured.

Clearly, for all the students, one of the contributing factors to success was their comfort level with me and with their oral rehearsal student partner. Getting to know me and allowing me to know them prior to beginning the writing was important to the establishment of a rapport upon which to build. The lengthy pauses as several of the student pairs attempted to begin their dialogues give additional evidence of the need for pre-rehearsal establishment of mutual respect for and a sense of *safety* with the other person. In this process, the simple use of the *Remember* list served as an entry point for several of the pairs, as did teacher reminders and explanations of what their task was. Somehow, having the task clearly defined in the beginning, even if they would soon deviate from the prescribed format, seemed to give students a place to start that was less threatening.

Although all the pairs were able to converse fairly soon after commencing, clear power differences emerged in each situation based on the personalities and characteristics of the students involved. This would suggest that teachers might need to consider carefully which students they place together to talk, balancing the shier types with receptive initiators. It may also serve as a sign that students should have some choice of partners since comfort level does matter more to some than others. Most students found it helpful that I, as a teacher, listened to them talk through the article the first

time. They felt confident that I could clarify word meanings or pick up on what they had already said to give cues of how to continue. In student-student discussions it would be important that participants be taught how to cue others and to listen carefully to their ideas. Students need to be aware of the process as well as of the content.

While all five of these students noted that they found some part of the process of writing easier after they had rehearsed orally, only Josh seemed entirely aware of the significant changes talk had caused in his compositions. Over time it is important that students like these who benefit from talking before writing view what actually changes metacognitively and learn how to use oral rehearsal independently to improve their writing when a class situation does not allow for such talk. These students made changes in the fluency and in the sophistication of their sentences apparently just by drawing on their oral language strengths. No drill and practice was used to increase the use of complex sentence structures. If they were more aware of the effectiveness of this process, students could use oral rehearsal whenever it was helpful.

Josh, Lynn, Mindy, Evan, and Alex were all aware that oral rehearsal caused some changes in their ease with writing. For the most part, however, they did not realize the degree of change evident in the flow of their syntax, in their elaboration of ideas, and in the overall coherence of their essays. Although they may have sensed, as Alex did, that their compositions were more engaging to the reader after they had talked through the material, they would not have ascribed the difference to a more powerful voice. With teacher guidance and frequent practice in oral composition with a responsive audience, other students like these five should be able to increase their fluency as well.

Drawing on their oral language proficiency, they too may write with more coherence and a more expressive voice.

CHAPTER VI

DISCUSSION

Both the quantitative and qualitative results of this intervention suggest that oral rehearsal is quite effective as a pre-writing strategy for students with difficulties in retrieval. Highly significant improvements were evident in all the areas of quantity, complexity, content, and quality. At the most basic level, that of Quantity, measures of the length of compositions (Number of Words: $F = 10.206$, $p = .004$) and the diversity of vocabulary used (Number of Different Words: $F = 7.656$, $p = .011$) demonstrate increases in fluency and the willingness to compose. Students who were interviewed credited talking beforehand with greater ease in beginning to write and in continuing to compose. Their comments and the statistics in this area suggest that increases in both the motivation to continue and the facility with which they were able to put words on paper were important factors in the improvement of their writing.

One of the most dramatic results of the project came in the area of Complexity. Not only did the students in the project make more connections between the ideas contained in the readings and their reactions, but also they reflected these relationships in increased numbers of complex sentences. Since complex sentence structures require the writer to define the relationships between two thoughts, they reflect a greater sophistication in the thinking process. More importantly, for students, particularly those with learning disabilities who generally experience great difficulty in using complex sentence structures correctly to express their thoughts, rehearsing orally resulted in significant changes in their ability to compose syntactically correct, coherent

sentences that integrate the relationship between thoughts. With a significant difference in this area (Percentage of Correct Complex T-Units: F = 48.687, $p < .0001$) when students are able to talk through the subject matter before composing, oral rehearsal seems to be an important factor.

In the area of Content changes were also apparent. A very slight, not statistically significant, increase in the number of ideas from the original text that were included in the students' compositions reflected students' attention to the article when they rehearsed orally before writing that was at least equal to their thoroughness with its propositions without rehearsal. More importantly, the students' willingness and ability to express their own ideas in response to the article increased significantly when students talked before writing. Having formulated their own reactions and tried them out on at least one other person, students had the insight and confidence to elaborate and comment on the thoughts expressed in the articles, as demonstrated by the increase in the Reaction/Elaboration Scores (F = 30.77, $p < .0001$). The combination of ideas from the readings and of the reactions/elaborations of students contained in their compositions (Content Total Score) reflect significant increases (F = 20.55, $p < .0001$) that support the conclusion that students remember more of what they read and link their own experiences to the written word more effectively when they have talked about the material before writing.

When a speech/language pathologist and an English teacher were asked to make an overall judgment about the Quality of essays composed in this project, a significant improvement was evident in the Holistic Scores (F = 5.054, $p = .034$) when students orally rehearsed before writing. Within this measure the differences between compositions written in the two conditions were noted primarily in the areas of coherence, content, organization, and

voice. It is noteworthy as well in examining factors that contributed to these improved Holistic Scores that a correlation between this area and that of the Percentage of Correct Complex T-Units was apparent only in the With Rehearsal condition. The highly significant increase in the usage of syntactically correct complex sentence structures when students talked before writing evidently added to the clarity and coherence with which ideas were expressed. Because T-Units rather than full sentences were used for analysis of syntax in the Percentage of Correct Complex T-Units and punctuation was not considered in decisions regarding correct expression, the influence of the increase in correct T-Units on overall quality was mitigated by punctuation errors that were not altered and may have been confusing to the readers. In other words, some significant changes in the syntactically correct expression of ideas resulted spontaneously from the use of oral rehearsal before writing; to maximize the effects of these modifications on the overall effectiveness of an essay, however, students would need additional instruction in matching their use of punctuation to the inherent structure of their sentences.

The significant changes evident in the Content area between the two conditions of with and without rehearsal are also important to consider here. Students' inclusion of more ideas from the text and from their own experiences presumably had an effect on the Holistic Scores their compositions earned. Still, it is important to note that between the original drafts and the final, revised copies students were not given any feedback or guidance about the logical sequence and organization of those ideas in their essays. Again, had it been available, a teacher's intervention and strategic instruction might well have proven beneficial in allowing students to increase the proficiency with which they integrated additional information and perceptions.

Within the context of this discussion, it should be mentioned that both scorers felt there was a slight, but noticeable difference in quality between the essays written in response to the two articles. The scorers commented that, taken as groups, the essays concerning "Teenagers in the Market" were superior to those about the "Career Decisions" passage. Unsure of exactly what might have caused this difference, they were careful to score each essay only in relation to the group of compositions about the same article. Student comments suggest a possible explanation of this difference. Although the "Teenagers in the Market" article initially impressed a number of students as more difficult to understand, its interest level seemed greater when students expanded on it in writing. The "Career Decisions" article was more familiar on first reading, but may not have elicited insights that were as original when students began to write.

Many of the contributions of rehearsing before writing to improvements in the Holistic Scores were more subtle and less quantifiable. As a result, they were not explained in the statistical analysis. The qualitative students profiles of Josh, Lynn, Mindy, Evan, and Alex are able to enlighten discussion of these more fine-grained changes that resulted when students talked before writing. These portraits of the students and their writing suggest that the more familiar medium of talk linked with the presence of an immediate audience fostered changes both in how fully participants were able to express their thoughts in writing and in how they felt about the process.

Not only were students more fluent in using words and ideas, they were also able to integrate the material from the text into their own personal framework rather than having the structure of the article dictate a suitable sequence of ideas. The coherence of their essays increased because the writers were able to relate and connect ideas more securely and to order those ideas in

a manner that their audience would understand. The chance to talk had given them the opportunity to link ideas from the article to their own personal experience and to be insightful about those relationships. Talk with another student allowed them to reflect on the material in new ways and to gain confidence in their own ideas at the same time. Because of their discussions with me and with a peer, students tended to be more accurate in their reporting of information and to express their thoughts with greater clarity. Even their usage of new vocabulary was smoother and more appropriate to the context.

Perhaps of even greater importance to the less tangible aspects of effective expression in this study were the shifts in how students felt about the process of writing after they had rehearsed orally. The increases in confidence and in audience awareness that students mentioned after they had completed the project were crucial to these changes. As Evan commented, "The aspect of talk *inspired* me." Having already sensed the reactions of an audience, they felt more secure in putting their thoughts into written form. The greater personal involvement and enthusiasm that were generated because of the chance to talk led to the willingness to share insights. By relating their own experiences and reactions to the ideas in the stimulus texts, students were able to write with more personal *voice* and with a heightened sense of authority. Having been personally involved with their audiences allowed these student participants to feel that they were valued for their ideas and for who they were.

<u>Student Participants</u>

The students who participated in this study were a diverse group. They ranged from approximately fifteen to twenty in age and from freshman to senior in school placement. They represented a broad range of socioeconomic levels and experienced varied degrees of family support for academic education. Some had been quite successful in a regular secondary school curriculum;

others had survived only through the assistance of special education staff and with significant curricular modifications. While some were planning ahead for post-secondary education in two or four year colleges, others were anxious to leave school behind as they entered the world of work. Their abilities to read with understanding and to write coherently reflected a similar spectrum of development.

The commonalty that brought these students together despite their diverse backgrounds and abilities was a shared difficulty with retrieval/word-finding. While they all demonstrated receptive vocabulary mastery in the average range, the participants in this study were chosen due to a discrepancy between that word knowledge and their ability to produce specific terms on demand. The difficulties noted in single word retrieval contexts such as those used in the pre-testing for this study can be apparent as well in discourse (German 1994). The students selected for this project were well aware of the consequences of a weakness in retrieval in the fast-paced classrooms of a typical high school.

Most of these students had never thought consciously about what a problem with retrieval might mean. They just knew that speaking up in class was hard. It was easier to say, "I don't know," or nothing at all than to try to answer a teacher's unexpected questions. They were also familiar with the panic that might strike when they had to give an oral presentation or to participate in a quick cooperative learning exercise. The words or answer might be "right there," but they just could not voice their thoughts in time. Many of the students had learned how to fill the time until they could pluck the words they needed from memory. The reformulations, repetitions, meaningless phrases, time fillers, delays and substitutions that German (1994) notes as signs of word finding difficulties had become integral parts of many students'

coping strategies. Few students were aware of their own methods to buy time in class discussions, however, and even fewer had made a connection between their hesitancies in speaking and their difficulties in expressing their thoughts completely and accurately in writing.

Research into the relationship between oral language retrieval weakness and difficulties in processing the written word have focused primarily on reading. Numerous investigations (Rubin & Liberman, 1983; Wolf & Goodglass, 1986; Wolf, 1991) have documented the high incidence of concomitant difficulties in those two areas. Since writing draws on many of the same phonological and memory processes as reading and then is subject to additional production factors (Scardamalia, Bereiter, & Goelman, 1982), it is reasonable to infer that retrieval difficulties affect students' efforts to communicate in written form as well. Word finding weaknesses are pervasive and have been found to be widespread in special populations (German, 1994). As these difficulties tend to persist into adolescence and even adulthood, the academic implications for secondary school students and possible instructional strategies to mitigate problems are worthy of investigation.

Interventions and Responses

My focus in this project was on evaluating whether oral rehearsal could be a practical, effective pre-writing strategy for high school students with difficulties in retrieval. While my years as a learning disabilities specialist fostered a particular interest in formulating and assessing an appropriate treatment for students with this diagnosis, my experiences as a classroom teacher increased the emphasis on practicality. Not only would the intervention be required to match the needs of the students and to improve their written production; it would also have to be feasible and worthwhile in the average high school classroom.

As a result of the very practical nature of this project, all the activities were designed to be as similar to those typical in secondary schools as possible in a contrived situation. All the students completed the process of reading a text, writing a summary/response to it, and then revising their composition in each of two conditions: with rehearsal and without rehearsal. The two texts used in the project were "Teenagers in the Market" and "Career Decisions" (Green, 1988). The order in which the texts were read and in which the conditions were arranged depended on the individual student's placement in one of four groups that had been randomly selected and counter-balanced to minimize confounding factors.

The students who agreed to participate in this project were amazingly cooperative considering that I was asking them to do more of the academic work they generally found difficult. Some were genuinely interested in what I might be studying, but most were probably participating because a teacher they respected had asked them to or because they enjoyed the more individualized attention. All experienced some frustration at one point or another in the process. While I attempted to interfere as little as possible with their school workload, the commitment of time and effort was noteworthy. Still, it was clear throughout the process that, once they got started, the students could be counted on to do the best they could on any given day. Hence the work they produced could be considered comparable to daily work completed in their regular classes.

Students' individual responses to the project varied with their previous experiences and learning styles. As I could not explain my intentions or the hypothesis I was studying prior to their completion of all the steps of the process, I faced some interesting reactions. One young man whose group needed to complete the writing without rehearsal first was quite disconcerted

when I asked him to write about the passage directly after reading it and reflecting on it by himself. Even as he sat at the table writing, he kept stopping and trying to engage me in conversation about the article. Because my failure to response did not discourage his desire to converse, I decided that I should leave the room in which he was working so that he would not be orally rehearsing at the wrong time. Most of the students whose group placements dictated oral rehearsal during the first phase seemed more comfortable with the instructions for writing the summary/response when they did not rehearse in the second phase.

Reflecting upon the students' reactions as we completed each stage of the project, I now realize that the time I spent with each individual student in the initial interview and during the pre-testing was very important to a balanced response from them later. The rapport we established early helped to mitigate the differences between those who would orally rehearse in the first stage (and hence gain more personal attention) and those who would not do so until the second phase. Their willingness to cooperate with me hinged, much as it does in a regular classroom, on a sense that they were respected as persons and that the work they produced was valued. It was important to them that I was not someone judging their work without regard for their feelings.

Possible Explanations of these Results

An understanding of the changes that occurred in written products when students orally rehearsed after reading and before drafting/revising their writing requires a broad analysis of many factors related to the particular task constructed for this study, to the specific group of students selected for participation, and to the context in which the writings were completed. As Flower (1994) suggests, both cognitive and social aspects of the project design and of the students' responses should be examined in light of current research

into these contributing factors. Within both the cognitive and social domains, theories emerge to explain the highly significant changes brought about by oral rehearsal. The task in this project was designed to replicate the type of multi-level assignment often required in high school courses and, as such, involved a variety of skills. In the cognitive domain possible explanations of what caused the highly significant improvements in written products evident on all measures include: (1) increases in reading comprehension that add to topic knowledge, (2) greater ease in the generation of oral language, (3) more facility in framing connections to aid in memory and retrieval, and (4) improved fluency in translating ideas into the written word. In the social domain agents that may possibly have fostered change include: (1) heightened interest, (2) increased motivation, (3) a more developed sense of audience, and (4) greater self-confidence. While the hierarchy of importance for these facets of performance would vary with any individual student, an exploration of recent research into these component considerations can enlighten our discussion of the results of this study.

<u>Cognitive Domain</u>

Within the cognitive domain various facets of the task students were asked to complete can provide the key to possible explanations of the improvements in their writing.

<u>Reading Comprehension.</u> The first task faced by a student in this project was to understand the text that had been read. Although my reading of the article aloud eliminated the immediacy of decoding issues, a wide range of abilities was still clearly evident in terms of reading comprehension. It is reasonable to assume that there was some difference in students' initial understanding of the two stimulus texts based on the use of vocabulary and on the difficulty level of the syntax. Students' background knowledge pertinent to

the two articles no doubt differed as well, influencing their immediate grasp of the subject matter.

The difference that oral rehearsal may have made for some of the students in this area can be illuminated by consideration of Wittrock's (1983) view of reading comprehension as a constructive or generative skill like writing. In his model of generative reading comprehension, Wittrock (1991) stresses the importance of (1) students' knowledge base and preconceptions, (2) motivation, (3) attention, and (4) generation. He defines *generation* as "the process of constructing meaning, a representation, a model, or an explanation, for example, of words, sentences, paragraphs, and texts that agrees with our knowledge, logic, and experience, and that makes sense to us" (1983, p. 61). Wittrock has found in various studies that generating semantic relations both among the parts (e.g., words, sentences, paragraphs, and larger units) of the subject matter and between the subject matter and student knowledge or experience contributes to increased comprehension of what is read. Likewise, the students' motivation to invest effort in reading and to see the results in light of their own efforts rather than due to the interventions of others is important in this area. In concert with these components, attention that directs the generative processes to the appropriate text, to relevant stored knowledge, and memories of related experiences is significant as well.

When the students spoke with me in the first rehearsal, they assumed the responsibility for explaining the content. As they followed the list of items to *Remember*, they were prompted to mention key ideas and details. Most importantly, they were asked to make generalizations that would give me an overview of the text and to relate the information in the article to their own experience by giving personal examples or ways to apply the author's words. In general, the students would expand more personally the longer we spoke,

telling me whether they found the author's viewpoint realistic in terms of their own lives. When the students rehearsed with one another before revising their essays, they had the chance to hear the author's words from a different angle. In addition, they heard about how a peer felt about the information and its relationship to their lives. Participants in the study were never told how to interpret or apply the article; their active role of speaking about it allowed them to generate the appropriate connections.

The instructions given for writing the summary/response in this project on the *Remember* list reflect the priorities Wittrock (1991) highlights for comprehension. Since these items also provided the guide for the oral rehearsal, students had the opportunity to explore each of these areas first without the formal constraints of writing. The flexibility and ease of reformulation in oral language allows more spontaneous reflection of the thinking process. Flower (1994), for one, has noted that the thinking that goes on in the mind of the reader or writer is "typically far more elaborated, contradictory, and surprising than the texts they read or produce" (p. 31). The opportunity to talk through the article may well have aided students in generating the semantic relations Wittrock considers so important and, as a result, in understanding the information in greater depth.

Possible effects of improved comprehension of the stimulus article on the writing of students in this project are related to the role of topic knowledge in encouraging and easing the process of writing. High knowledge writers have been shown to expend less effort overall in composing than low knowledge writers (Kellogg, 1987). In a study of ninth graders and undergraduate students, Benton, Corkill, Sharp, Downey, and Khramtsova (1995) found that high topic knowledge was the most significant factor in the thematic and syntactic maturity reflected in written narratives. Participants in this study

with high knowledge generated a greater proportion of topic-relevant ideas in their writing. Although the written products in the Benton et. al. study were narratives, a similar increase in the Content Total score in our current study may indicate a comparable pattern of more in-depth understanding of the stimulus text influencing the ability to include more ideas in writing. Benton, et. al. credit more content knowledge with reducing the level of effort needed to access ideas.

Oral Language Generation. The second task participants in this study had to complete was the oral rehearsal itself. Whatever initial understanding they had of the article would provide the foundation for their discussion. As the portions of transcripts of these rehearsals included in the qualitative profiles in Chapter V demonstrate, however, the manner in which they started speaking and the preliminary information they included were not necessarily the language or ideas with which they finished. Generating the words to reflect and shape their ideas was a task in itself for some of these students. Although they may have struggled in the beginning, the process of putting words to their ideas generally proved helpful to students in clarifying their thoughts and in preparing for the writing they would subsequently complete.

The retrieval difficulties that provided the basis for inclusion in this project made this stage of activity a critical one. While the debate about whether storage or retrieval is the more important issue in word finding problems may continue, strategies that both increase storage strength and improve retrieval capacity are generally recommended (Nippold, 1992; German, 1994). The act of speaking aloud about the information in the original text with the students putting those ideas into their own words likely helped them to expand the meanings of words already part of their lexicons. It also aided in forming associations between words. Snyder and Godley (1992) point

out that retrieval ability is significantly influenced by factors both intrinsic and extrinsic to the speaker. Two of the intrinsic matters, frequency of use and familiarity of the target word, seem particularly relevant to this discussion, as do two of the extrinsic concerns, context of the task and the presence of primes. In the present study the casual, familiar setting, the informal, untimed nature of the rehearsals, and the primes available through the discussion and from the *Remember* list were conducive to recall.

Terming retrieval capacity "fragile," Nippold (1992) cites four major factors in the speed and accuracy of word recall: the presence of cues, the frequency of use, the competition from other items in memory, and the recency of learning. In response to these factors, she suggests the importance of increasing word knowledge, storage strength, naming accuracy and speed, retrieval strength, and the use of strategies. Such strategies are goal-oriented behaviors designed to facilitate the recall of information stored in memory. Activities such as identifying the less familiar vocabulary from the stimulus text, understanding what the individual words mean, seeing those terms in relation to the topic, and pronouncing those words as part of sentences provided students in this study with the type of practice that has been found to be helpful for children and adults with retrieval difficulties. The opportunity to orally rehearse while referring to a list of items to include in the discussion supplied a means of organizing information that could later aid in recall. Retrieving this information during the oral rehearsal was in itself a potent strategy to aid in future recall since each act of retrieval helps to increase storage strength (Bjork & Bjork, 1992). Logically then, the more that students were able to use the new vocabulary and to relate ideas verbally, the more likely they were to remember those words and contexts in composing.

Framing Connections in Memory. Once the participants completed the oral rehearsal, either prior to drafting or before revising, their next task was to reflect their knowledge of the article and their own reactions to it in writing. In attempting to compose a summary/response to the text, students faced the most difficult challenge. Just recalling the words and the main concepts would not be sufficient as they began to express their thoughts in written form. While the oral rehearsal presumably allowed for a deeper understanding of the stimulus articles and through practice encouraged greater speed and accuracy in recall of relevant words, now they would need to draw on that topic knowledge and fluency to accomplish a more complex task. At this point the connections that students were able to make between words, clauses, details, concepts, and their own experience had to be integrated into a coherent whole.

The type of elaborative processing that Wittrock (1991) recommends for reading comprehension provides a basis for writing effectiveness as well. The associations his model encourages students to form between ideas not only aid in understanding text; they also contribute to improved retrieval and to the ability to place clauses into sentence structures that reflect the relationships between ideas. Other researchers (Bransford, 1979; Rumelhart, 1980; Willoughby, Wood, & Khan, 1994) as well have found that new information is easier to remember if learners actively make meaningful elaborations. Knowledge needs to be framed within a network of general information (Anderson, 1990). The ease with which a writer is able to access understandings is related to the richness and level of elaboration of the network. When students in this project were asked to respond to each of the items on the *Remember* list, they had to activate their existing knowledge and design a schemata to organize the new information. This organizational schemata would in turn aid their retrieval of words and ideas.

The items selected for inclusion on the *Remember* list were adapted from a criteria for evaluating Elaborative Verbal Rehearsals designed by Simpson, Olejnik, Tam, and Supattathum (1994). In a study investigating the relationship between Elaborative Verbal Rehearsals used as test preparation and subsequent performance on tests consisting of recognition and essay items, college students demonstrated consistently stronger memory as a result of orally rehearsing. More significant increases in memory on recognition items and higher quality of essays were correlated with verbal rehearsals that were more elaborated according to the scoring rubric. Thus, when students produced more generalizations, included more creative or personal reactions to key ideas, put important ideas from the text into their own words, explained appropriate facts and details with examples, included personal examples, and created verbal rehearsals that were organized, complete, and made sense, they were more able to reflect their learning and understanding on tests. The relation between students' elaborative verbal rehearsals and their essay performance was more significant than between their rehearsals and their recognition performance.

Similar improvements in memory and elaboration reflected in writing after orally rehearsing may well underlie the significant changes evident in the Content Total and Reaction/Elaboration Scores in this study. Participants included slightly more information from the original text in their essays when they rehearsed even though they had equal access to the article and to the *Remember* list in both conditions. More importantly their inclusion of reactions, elaborations and application of the material was significantly increased in the oral rehearsal condition. As Willoughby, Wood, and Khan (1994) note, elaboration strategies depend for success on the learners' well-developed conceptual understandings of material, "but it is also true that

students have to be encouraged to activate that knowledge base to maximize learning gains" (p. 287). Having the article and the *Remember* list in front of them was not sufficient; students benefited more from having to take an active role in drawing connections to form new knowledge and hold it in memory.

Translating fluency. The most frequent comment I heard from participants during the course of this study was, "I hate to write." While they would comply with my directions and complete the assigned writing tasks, the students clearly found writing stressful. For many of them, expressing themselves in written form was an overwhelming proposition, and they seldom felt successful in their efforts. Why this might be the case in the majority of their writing experiences has implications for the changes that occurred when they were able to rehearse orally before attempting to place their thoughts on paper. The complex nature of the act of writing with its many interactive elements requiring close coordination is central to an understanding of these alterations.

The complexity of the writing process has been described in a number of multi-level, interactive models of composing (e.g., Beaugrande, 1982). The work of Scardamalia, Bereiter, and Goelman (1982) in exploring the need to coordinate the simultaneous processes that they term *production factors* continuously on various levels throughout the stages of writing is particularly relevant to the current research. Underlying the authors' emphasis on these elements is the understanding that if writers wish to construct coherent extended discourse, they must be able to build continuously on the text already produced. As a result of this need, writing depends on the mental representation of text found in the author's mind. Since these mental representations must be constructed or reconstructed every time they are

needed, the effort required to move from thought about simpler matters of representation, such as spelling words, to higher levels of meaning, like an overview of the plan for the writing, can be enormous. Scardamalia et. al. do not view all the components of the writing process as separate variables that must be taken into account. Rather, they see memory limitations, attention to mechanics, and the discoordination of executive functioning in writing due to the lack of external signals as even more significant in their joint effects on the reconstructive activity that all writers must complete. In order to plan at all levels of composition—from the lowest levels of mechanics to the highest of conveying meaning in a coherent, organized fashion—writers must internally regulate and coordinate these production factors in a skillful manner. The demands for mental effort in so doing are continuous. As preparation for this process, the authors suggest a school curriculum that incorporates oral composition as well as written composition. Extemporaneous speaking which is planned but not scripted (much like the oral rehearsals in this study) is recommended because of its ability to foster the mental representation of "gist units and syntactic plans" (p. 208). Practice in oral composition, they note, would "likely...be beneficial in fostering fluency of content generation and spontaneity of expression throughout the school years" (p. 208).

When and how the production factors described by Scardamalia et. al. (1982) might affect the writing process most intensely would vary for individual students. A model of writing proposed by Flower and Hayes (1981) provides a method of discussing the findings in this study. The model is designed with three main elements: the task environment, the writer's long-term memory, and the writing processes. The task environment includes such variables as the writing topic, the intended audience, motivating factors, and elements of the text already produced. Long-term memory embraces the

writer's knowledge of the topic, of the audience, and of various types of writing plans. The three writing processes defined by the authors are: (1) planning, which includes generating ideas, organizing, and goal setting; (2) translating, which focuses on transforming ideas into written words; and (3) reviewing, which involves ongoing evaluation and revision of the composition. These three processes are considered to be interactive and recursive. For the purposes of this discussion, the second of these writing processes, translating, is the most pertinent. For the students participating in this project, given their difficulties in the area of retrieval, the acts of lexical selection and of sentence generation which take place in the translating phase of writing may well have posed some of the most complex challenges.

The relative effort involved in the translating phase of writing may well differ from student to student. In a study designed to measure the effects of high topic knowledge on the writing of college students, Kellogg (1987) used retrospective reports obtained at variable intervals during the process of writing to evaluate the relative percentages of time and effort spent on each of the three phases of writing: planning, translating, and reviewing. During the writing, these three processes were clearly interactive, with planning decreasing and reviewing increasing over the course of composing time. Contrary to his initial predictions that planning and reviewing would require the most time, however, Kellogg found that translating absorbed 50% of the writers' time in both of his experiments. Translating was not as effortful as the other two processes, but it was a major consideration in the allocation of time to complete the writing.

The implications of this research for students with retrieval difficulties like the participants involved in this project are illuminated by the results of the McCutchen, Covill, Hoyne, and Mildes (1994) study into two factors

influencing the translating fluency of skilled and unskilled writers. The authors found that, with groups of both third and fourth graders, and of seventh and eighth graders, skilled and unskilled writers differed in two aspects of language production: sentence generation and lexical retrieval. While these processes generally occur in oral language with little involvement of working memory and are able to free resources to spend time on higher level activities such as generating and organizing ideas, a lack of fluency in retrieving words and formulating sentences shifts the focus of time and of effort even in speaking. If translating demands in writing tend to take 50% of composing time even when no heightened effort level is required (Kellogg, 1987), weakness in skills contributing to translating fluency certainly had implications for the students in this project. With similar processes interacting in writing as in speaking, McCutchen et. al. (1994) note that the "lack of fluent translating processes in the less skilled writer may actually preclude optimal operation of planning and reviewing processes, even if the writer tries to plan or revise, because of working memory limitations and because of the increased resources that translating requires of the less skilled writer" (p. 261). The ability of the students participating in the current project to attend to discourse concerns in much of their writing may have been compromised by their difficulties with speed and accuracy in the retrieval of words as well as possible concomitant problems with the fluent generation of sentences.

Summary of cognitive factors. With the diverse effects of oral rehearsal possible given the structure of this particular project, it is difficult to isolate why any individual student responded as they did. Clearly, current research and the outcomes of this study would suggest that oral rehearsal tended, in general, to ease the task burden in comprehending what was read, in generating words and language structures to express one's thoughts, in forming

connections to aid memory and retrieval, and in translating ideas into the written word. The highly significant improvements in these cognitive areas are reflected in the statistical results for measures in all the areas of quantity, complexity, content, and quality, and are further supported by qualitative evidence from the students and the reactions they voiced. To understand more fully why these changes may have occurred at such a significant level, it is helpful to examine the task that this particular group of students faced in writing a summary/response as a total entity, not just as a combination of isolated skills.

In evaluating the critical elements influencing change in students' written products when they rehearsed orally before writing, it is necessary to return to the complex nature of the act of writing, for the need to operate on many different levels simultaneously taxes the resources of even fluent writers. The initial theories to explain the improvements evident in this project have been explored. The evidence demonstrates how increased reading comprehension, and, in turn, greater topic knowledge likely influenced idea generation and memory strength. The generation of oral language before writing also probably helped students to learn and recall vocabulary and to compensate for their retrieval weaknesses. In addition, it is reasonable to think that the connections between ideas and their own experiences that participants were able to make while talking increased their ability to hold information and their elaborations in memory long enough to write about them. Having more ideas formulated and having longer access to those thoughts no doubt aided the students in this project to write more fluently and to expand on the propositions in the original article.

That all these students shared difficulties in the area of retrieval *and* that poor lexical retrieval has been linked to the diminished translating fluency

of unskilled writers suggest, however, that none of these explanations of the changes will alone suffice. Increased reading comprehension, greater ease in language generation, and improved memory due to making connections in material may well be important individual considerations. The most critical element in the highly significant results of this study may more reasonably be found, however, in the relationship between all these contributing factors, particularly that of language generation, and the translating process in writing.

A return to Nippold's (1992) four considerations in the speed and accuracy of word recall (the presence of cues, the frequency of use, the competition from other items in memory, and the recency of learning) and an examination of the process completed in this project, can contribute to an understanding of the role of oral rehearsal for these students with difficulties in retrieval. Used as a post-reading, pre-writing strategy, the rehearsals themselves provided the opportunity to use the new information from the article quickly, restating ideas and assimilating new vocabulary within the context of talk. This allowed students to reinforce their recent learning and to bring pertinent information and words to the forefront, ready for use in their writing. Highlighting the current topic as they spoke caused other items in memory to recede, decreasing the competition for time and attention to at least some extent. All these processes combined to allow students to compensate for their usually weak retrieval. Bjork & Bjork (1992) stress the importance of cues in the retrieval process, noting that such cues may be environmental, interpersonal, emotional, physical, or associative. They caution that cues originally associated with an item in storage need to be reinstated, physically or mentally, at the time of retrieval. When students in this study told me that they could think back to the discussion, rather than just to the printed text, to recall ideas and specific words, they were reporting

their own *cues* that had made the information more memorable in the first place.

The importance of more fluent retrieval to the translating process in writing may explain to a large extent the highly significant findings in this study. While the original premise for Benton et. al. (1995) was that topic knowledge would be linked to the planning process in Flower and Hayes (1981) model of writing, their findings suggested that it was related to the translating process as well. "Apparently, high topic knowledge automatized writing processes, thus enabling writers to write rapidly and freeing workload space for generating and translating ideas" (p.75), the authors noted. Lack of fluency in lexical retrieval and sentence generation is associated with unskilled writers and is seen as impeding the translating process (McCutchen, et. al., 1994), but these deficiencies seem to be ameliorated by the use of oral rehearsal as a pre-writing strategy. Not only did student compositions reflect more lexical diversity (Number of Different Words), but they also evidenced generation of sentence structures that were greatly improved in the use of correct complex syntax (Percentage of Correct Complex T-Units) when students spoke before writing. The improvements in fluency in these more basic elements of the translating process, lexical retrieval and sentence generation, in turn may well have freed up effort and working memory capacity to focus on reflection and expansion of ideas from the original text (Content Total). The results of this study suggest that it was the improvement in the fluency of all the processes involved in writing that was essential to the clearer, more developed expression of ideas in written form. It would seem reasonable to assert that oral rehearsal contributed to the increase in fluency (of words, of sentences, and of ideas) when it was used as a pre-writing strategy for students with difficulties in retrieval.

Social Domain

During the discussion of the cognitive issues involved in students'
performance in this project, it may have been easy to overlook just how
tenuous their participation and their willingness to complete each of the
assigned tasks really was. Anyone who has taught high school knows that
students seldom do anything voluntarily that makes them feel uncomfortable
or unappreciated. Every moment and every request in this project was
couched in a social context that made participation either acceptable or
unacceptable. The importance of these social factors to the students' ability to
think through the subject matter and to express their own understanding and
reactions in writing should never be underestimated. As Hansen and Graves
(1991) point out, "Learning is part of a social system and to isolate it from its
context distorts its character" (p. 817). In real educational situations, the
social context often determines success or failure, particularly for students
considered at risk. Fast-paced, less personal educational environments can be
quite hostile to students with retrieval difficulties, creating anxieties that
hinder any real learning, cognitive or social. The differences evident in this
project when students orally rehearsed before writing may at least partially be
traced to increases in students' interest, motivation, sense of audience, and
self-confidence that came about because of the interactive situation. Indeed,
these changes may not have been possible at all without a social context
fostering such elements.

Interest. To make this project as agreeable as I could while still
obtaining impartial information about the effectiveness of oral rehearsal as a
pre-writing strategy, I chose articles and set up situations to heighten student
interest as much as possible. The two texts, "Teenagers in the Market" and
"Career Decisions" (Green, 1988), were selected because of their relevance to

students' lives in addition to their value as content area informational passages. For the most part, the articles did indeed hold participants' interest and were sufficient to provide the foundation for many types of elaborations. When I asked students about their interest in the articles after we had completed all stages of the project, their personal preferences for one text or the other were split almost exactly in half. If the texts had not contained the potential for personal reactions or if students had found one much more exciting or relevant that the other, the results of the study might have been quite different.

Interest in the articles themselves helped to keep the students willing to participate, but it did not guarantee differences in writing. As was evident in Lynn's profile, for instance, greater interest in the "Career Decisions" passage did not mean that she would be better able to reflect its ideas and her own responses more fully in writing. Other aspects of interest may have been more critical to the changes that occurred during and after oral rehearsal than the choice of texts. Students' interest in the social situations themselves was likely more important overall. Because the initial interviews and the pre-testing allowed me to establish rapport with the participants, they gave students the opportunity to *be known* to me as persons. This "human need to be recognized" (Calkins, 1991, p. 244) seemed to be significant in their willingness to complete each step of the process. In addition, the chance to discuss the articles with me and with another student not only augmented the appeal of participation, but it also gained their interest in the subject matter itself. As a result of the discussions, students were more likely to attend to the information the articles contained and to add their own reactions.

Motivation. Closely tied to the interest level of this project was that very tenuous commodity in high school--motivation. The willingness of a group

of students, most of whom disliked writing about anything, to continue composing at greater length after they had talked about the article was largely dependent on their motivation. More traditional writing instruction in high schools has often tended to inhibit student development because it does not foster this willingness to compose (Emig, 1971). Since they knew that their work with me was for research purposes only and would not be graded or affect their school standing in any way, the participants in this study were writing only because they made that choice each time we met. While some commented afterwards that they were slightly uncomfortable when they were writing with another student or a few students nearby, my own observations during the writing led me to believe that they were motivated partially by the fact that they could see someone else taking the requests seriously and writing steadily in response. This was true even when a few students were completing the writing without rehearsal in the same room, but the effect was clearly enhanced when two students who had just spoken at length with each other then sat down within the same room to write about what they had discussed. Since they had gotten to know each other on a more personal basis, they seemed to share an obligation to record their joint insights on paper in a responsible manner.

Sense of audience. Both the interest and the motivation that students participating in this project reflected in their actions and in their written products are linked to the more immediate sense of audience inspired by orally rehearsing. Rather than remaining isolated in their attempts to compose, students were able to talk with real human beings whose feedback could be as subtle as a raised eyebrow or as straightforward as an off-handed comment about the quality of the author's or their own ideas. While I tried to listen more than to respond, I am sure that when I was really confused by their words,

students were aware of the problem. Because of the greater spontaneity of talk than of writing, they could take the time and make the effort to clarify what they were trying to tell me. They could repair their speech and, in so doing, choose more precise words and more understandable sentence structures. In their conversations with other students the feedback was even more direct. Although students were sensitive to one another's feelings and carefully guarded their own until they were sure of acceptance, adolescents tend to be quite spontaneous in their responses. Once they chose to share an idea or experience, the participants could be assured of some reaction, verbal or nonverbal.

The differences that this more immediate sense of audience made to the students' compositions are subtle, but probably quite significant to the results of this project. In the discussion of the cognitive considerations in the changes brought about by oral rehearsal, one of the *production factors* described by Scardamalia, Bereiter, and Goelman (1992) was the discoordination of executive functioning in writing due to the lack of external signals. In other words, writers experience more difficulty knowing exactly where they are in a composition because the markers that exist in spoken language, signaling turn-taking or other pauses and changes, are lacking in written language. The presence of an audience, whether it was me or another student, allowed students to get a better sense of where the shifts of attention might be needed before they had to take on the entire burden an act of writing imposes. The cognitive changes apparent in the results of this study could come about more easily in the context of an oral rehearsal because of the very important social cues present in this situation.

Helping students to develop a sense of audience is one of the major thrusts of writing instruction in high school and its importance extends well

beyond reducing the demands on executive function during writing. It relates as well to viewing writing as a means of communication and, as a writer matures, as a means of thinking (Murray, 1980). Formalizing thought in written form increases the demand that ideas be expressed clearly so they will not confuse the reader. By sorting out their thoughts in spoken form before writing, participants were able to state, repair, restate, and make connections between their ideas. They could see how someone else understood and accepted their views, and then they could clarify their intentions with more precise words or more defined relationships between ideas. After working through these preliminary activities, students were able to make their first draft more coherent and expressive. Repeating the rehearsal process with another student, they could rethink at a more sophisticated level and then revise their original writing to suit a broader audience. Their interactions with a live audience could prompt new reflections on the material as well as greater confidence in the expression of their ideas in writing.

Self-Confidence. So much of students' willingness to participate in this project and to continue at each step of the way depended on how they felt about their ability to do so successfully. Murray (1980) understood this when he wrote, "Writing means self-exposure...It is natural for students and writers to fear such exposure" (p. 19). Although I could encourage them and build on the rapport we had established in the initial stages, participants were still apprehensive about the writing itself. Hence, it was critical in this project that students could themselves sense the differences that occurred when they were able to talk before writing. They knew instinctively when they had expressed an idea clearly or used a new word appropriately. By trying out their conceptual understandings and the relationships they saw between the text and their own experience on two other people before having to write, the

participants had gained confidence in their thinking. Having sensed reactions
to their words, they had already reformulated their language and approach
orally, so it was easier to begin and to continue writing. In this case, unlike in
the majority of their writing experiences, they could compose without a sense
of anxiety or a fatalistic resignation to failure. As the words and phrases
became smoother in their speech, the students grew in the confidence that
they could translate their thoughts into writing as well. Their increased self-
confidence resulted in compositions enhanced by a more striking sense of
authority and of personal voice.

     <u>Summary of the Social Factors</u>. Although it is difficult to evaluate the
individual role of any one factor in the results of this study, it seems fair to say
that without a social context fostering acceptance and engagement no
measure of cognitive changes would have been possible because no one would
have participated. This observation alone may not be of great interest. The
fact that the quality of student writings changed dramatically when the social
structure surrounding the composing process was altered is much more
important in focusing attention on the role of these social factors. As Flower
(1994) notes, "Cognition is deeply embedded in an activity or a social setting
that not only structures cognition but provides resources that in essence do
much of the work" (p. 112). The resources that oral rehearsal mustered and
helped students bring to the act of writing were inextricably linked to how
students felt about the whole project and about their ability to participate
successfully. In turn, these resources--heightened interest, increased
motivation, a more developed sense of audience, and greater self-confidence--
contributed to significant changes in the quantity, complexity, content, and
quality of student compositions. Through oral rehearsal students were able to

direct their words to an audience, verify the value of their words and thinking, and gain the confidence needed to reflect their ideas more fully in writing.

Educational Implications

The results of this study suggest oral rehearsal can be highly effective as a post-reading, pre-writing strategy for high school students with difficulties in retrieval. By talking over the subject matter with me before writing a first draft and with another student before revising, students were able to improve their compositions on measures of quantity, complexity, content, and quality without particular teacher instruction or any additional intervention. Having increased the accuracy, clarity, and fluency of their writing, they wrote with more coherence and expressed their thoughts in more powerful, engaging voices. Students were asked to complete the same typical high school writing assignment and were given the same written and oral instructions in both conditions: with and without rehearsal. The improvements in their written products seem to have occurred as a direct result of the opportunity to talk through the content of the article before writing.

Current Limits of Oral Rehearsal Use

That oral rehearsal by itself could have these significant effects for students with difficulties in retrieval is important information for high school teachers, particularly in English and special education language instruction classrooms. In contrast to British schools in which the National Oracy Project (Barnes, 1993; Lofty, 1996) has fostered emphasis on oral language development, the traditional focus on literature and composition in American secondary schools has generally limited the opportunity to *talk* for these and many other students. Often class discussions are primarily teacher-centered or dominated by the outspoken few. Students who cannot retrieve words and information quickly get little "air time." Even in courses designed for the

practice of a professional model of writing with recursive stages of rehearsal, drafting, and revising, practical considerations of limited time put the pressure on teachers to speak more than they listen in order to *help* more students during a class. Seldom do students have the chance to speak at length about a subject before they are expected to write coherently reflecting their understanding and personal reactions.

The reluctance of teachers to allow students more freedom in talking during classes comes primarily from two sources: limited teacher time to listen to an individual student at any length, and the difficulty of controlling student-to-student discussions. With English or other content area classes of typically twenty to thirty students, a teacher's time and attention are drawn in many directions during a single class writing period. The effectiveness of both teacher-student and student-student discussions in this study suggests that peer conferences can be quite useful in lessening the load on teachers in busy classrooms. These interactions between students should be simple discussions of the topic, allowing the opportunity for elaboration and personal insights. They can occur before drafting and revising alike.

The difficulty of controlling such student-student discussions is a major concern of secondary school teachers. Feeling highly accountable for how class time is spent, teachers tend to be reluctant to spend time *talking*. Writing, for instance, produces a much more measurable product. When students are allowed to talk together in pairs or small groups, teachers cannot be certain that their discussion remains focused on the chosen topic. As one teacher told me, it is "messy" to relinquish closer control of the classroom. Although they have studied the psychology of learning and have an understanding of language development, teachers' practical assumptions about teaching may not always reflect their knowledge (Barnes, 1993). Unless teachers have access to and

understand research demonstrating the value of oral rehearsal to improved writing, their reluctance to foster extended talk in their classrooms will likely continue.

Potential Uses of Oral Rehearsal

Perhaps more than anything else, the results of this study suggest a rethinking of priorities in language arts instruction for students with retrieval difficulties at the high school level. Although the traditional emphasis on literature in secondary classrooms has in recent decades been broadened to include attention to the composing process as well, little effort has yet been directed toward the cultivation of oral language both as an important skill in itself and as a medium for the improvement of writing. The assumption may be that students in secondary schools have already gained what they can from oral expression and have now internalized any of its processes that are important to academic achievement. At least for students with retrieval difficulties, and possibly for others, this may not be the case. Rather, drawing on the spoken word to increase the fluency of expression in writing may enhance both academic confidence and performance.

With potential for improving the comprehension of what is read as well as easing the translating process of writing, oral rehearsal can be used in a variety of classroom situations. In classes it can furnish opportunities for the type of "exploratory talk" whose function is "not simply communication but includes the reconstructive thought that is such an important part of learning rather than the "presentational talk" that predominates in large-group discussions (Barnes, 1993, p. 30). When students who experience problems responding quickly in speech or in writing are faced with the task of reading and reflecting their understanding in written form, allowing time for student-teacher or student-student talk is a worthwhile investment. Most oral

rehearsals in this project, for instance, were only five to fifteen minutes long, but the changes in written products were noticeable. Not only are students likely to write more and to include more ideas and reactions, but their syntax could improve significantly without extensive grammar instruction and practice. Student compositions written after orally rehearsing can then be used as source material for teaching conventions and organizational features of writing. Building on the oral language skills and understandings that students have already mastered to increase learning and written language fluency is a natural progression.

<u>Caveats</u>

The reactions of students in this project suggest that some care needs to be taken in structuring opportunities for oral rehearsal. The first prerequisite for most students to feel comfortable in talking through material with someone else is the prior establishment of rapport and a sense of mutual respect. While a close relationship does not seem to be required, student participants in this project sometimes seemed more willing to express their personal reactions with me than with a peer because they did not have to be concerned about personal preferences or socioeconomic differences. This may have been true because teachers are generally viewed as more accepting of differences than other students might be or because the participants had already begun to feel comfortable with me during the initial interview and pre-testing.

Any such hesitancy suggests caution in placing students together to complete work too quickly. If possible, teacher-student oral rehearsals are advisable when students are just learning what is entailed in the process. The teacher may be in the unique position of having the knowledge base to clarify information and to help students understand and integrate unfamiliar, subject-specific vocabulary. Even in student-student rehearsals, the teacher should

act as a resource when students have questions or difficulty getting started. The lengthy pauses evident when Lynn and Mindy or Alex and Sam were placed together, for instance, suggest that students may need encouragement and guidance at that particular moment. To prepare for such activities in a class situation, the teacher must work progressively to build group expectations which include acceptance and a sense of respect. Student-student discussions may be more successful if they are phased in through cooperative learning or other small group exercises and not forced on students before the group has formed working relationships. Some attempt to match students based on prior relationships and on personal style may also aid in raising the comfort level and in balancing participation so that one student does not dominate the conversation.

Choice of topic is second factor in the effective use of oral rehearsal. Particularly when a class group is first practicing with this pre-writing strategy, teachers should avoid subject matter that is too personal. Students are reluctant to reveal how they feel about questions that touch their sense of worth until they know their sentiments are shared, or at least respected. Josh's reticence about financial issues illustrates this area of concern. Content area material of many types can be used to develop facility in the use of talk without engendering undue concern in the process. Once trust is established in the class, more personally relevant topics can be discussed.

The final caveat regarding the use of talk as preparation for writing is that students with retrieval difficulties should be given a structure (such as the *Remember* list in this project) or other concrete suggestions that they can follow to begin talking about the topic. This was particularly helpful for Alex and Sam. Whether they use it step-by step is not important; it is simply helpful for two students to have a sense of what they need to do and a mutually

agreed upon basis for their talk. The list or other guide can be devised to function as a cue should students find themselves at a loss for words. Encouragement for elaboration should be included in the prompt, but the particular direction of their discussion should be a matter of choice for the students involved. As they become more adept at oral rehearsal as a pre-writing strategy, students will feel more comfortable with greater freedom of approach.

<u>Metacognitive Aspects of Writing</u>

When I interviewed some of the participants after they completed all the writings, most could tell me that they felt more comfortable about composing after having talked about the article. They were not equally insightful about what changes oral rehearsal brought about in their essays. While they did acknowledge that they could recall more information because of the discussions, they usually mentioned this only in relation to how much they were able to write, not to the quality of the writing. Comments reflecting their feelings that the words were all ready to come out when they started to composed were numerous, but the students did not seem to sense that there were actually syntactic differences in the written products themselves. They were more confident about what they had to say, but they did not necessarily notice the shift in the tone of their writing voice.

Such limited insight into the metacognitive aspects of writing has been shown to be typical of learning disabled adolescents (Wong, Wong, & Blenkinsop, 1989). Although they knew how to complete the writing, the student participants in this project had tended, during their writing, to be preoccupied with idea generation and the immediacy of getting the next thought down rather than thinking through the structure of their composition as a whole. As a result, they were unaware of how significant the changes in

their syntax, in their ability to elaborate, and in the overall quality of their essays actually were when they talked before writing. Often they did not realize that the time taken to compose was also reduced.

If oral rehearsal is to become a useful pre-writing strategy for students with retrieval difficulties, teachers will want over time to encourage them to become more conscious of the process and of the changes it fosters in writing. Guidance in the process can then fade as the willingness and the ability to compose orally increase. Once they understand what is expected in an elaborative verbal rehearsal, students should be able to self-monitor whether they have been complete in their response. As they become more adept at shaping their words and essays while speaking aloud, they should also begin to internalize the process. Eventually, students may well emulate the ability of more proficient writers to rehearse in their minds.

Limitations

The results of this study support the use of oral rehearsal as a post-reading, pre-writing strategy for high school students with difficulties in the area of retrieval. Although the findings are significant in all the areas of quantity, complexity, content, and quality on the measures chosen for this project and these results are supported by qualitative assessment of writing changes, some limitations of applicability should be mentioned.

(1) First of all, there were only twenty-eight participants in this project. All of these students had been identified with a language difficulty in the area of retrieval. Thus, the results of this research cannot be generalized to other low-ability or high-ability writers without further study.

(2) Secondly, there may be other measures of written products not considered in this project that other researchers deem important.

(3) Thirdly, the task in this investigation was designed to duplicate a particular type of high school writing assignment, the reading of a content area text and the writing of a summary/response essay. Other writing tasks might be affected by oral rehearsal in various ways and to differing degrees.

(4) Overarching these limitations caused by particular aspects of the study design is the need for teacher replication of these results in regular classrooms. Although this project was constructed to be as close to normal practice as was possible, the setting was still contrived. The effectiveness and feasibility of oral rehearsal in actual classrooms should be explored.

Future Research

The limitations of this study just outlined suggest several of the areas for further research:

(1) The effectiveness of oral rehearsal as a pre-writing strategy for a broader population of high school students. Would talking through material before writing prove as efficacious with other low-ability writers who presumably have some of the same difficulties with managing the various production factors in writing simultaneously? Would more proficient writers also benefit from the opportunity to orally rehearse, or have they already internalized the process of writing to such an extent that verbalizing aloud no longer serves the same functions?

(2) Other measures of the changes in written products composed both with and without oral rehearsal. Researchers in writing may feel other aspects of the writing are worthy of investigation.

(3) Use of oral rehearsal with different types of writing tasks that are typically important to high school students. These might include such assignments as narrative writing, a personal portfolio for presentation to college admissions offices or to employment prospects, and even the

formulation of answers to essay questions on tests reviewing previously learned material.

(4) Use and evaluation of the effectiveness of oral rehearsal in regular classrooms.

Within the context of the data collected in the present study or in others similarly structured, I would like in the future to examine two other areas:

(1) Revisions. The changes in participants' written products between the original draft and the second (presumably final) copy are of interest to me. One of the questions that I would like to investigate would be whether students were more willing to make more substantive changes in their compositions when they revised if they discussed the content between drafts. Since so many high school students consider revisions to be simply a process of correcting errors and retranscribing, this would be useful information.

(2) Relationships between what is said and what is written. Another question that I would like to examine further involves comparing the oral rehearsals themselves to the written products which followed. Tapes of the rehearsals could give insight into how what students said eventually found its way into what they wrote. Matters to be considered might be word choice, idea generation, and the overall organization of their approach to the topic.

In the broadest view, the highly significant results of this research would suggest that the whole question of how oral expression and writing interact in adolescents is worthy of further investigation. Is expressing themselves verbally important to continued development of language proficiency both interpersonally and in writing? What are the social effects of such interactions? It may be important to examine priorities at the high school level in light of the current demands placed on young people when they graduate. If oral rehearsal can have such significant effects on the writing of students with

difficulties in retrieval, practice in oral composition and in sharing ideas verbally may have other benefits for adolescents that have not yet been documented.

Conclusion

For the writers in this study who experienced difficulties in retrieving and generating language, the practice of oral rehearsal provided a critical link in learning how to transition from internal thought to the expression of meaning in writing. Vygotsky's assertion that "the change from maximally compact inner speech to maximally detailed written speech requires what might be called deliberate semantics--deliberate structuring of the web of meaning" (1962, p. 100) would suggest that somehow talking through the subject matter before writing helped these students to strengthen the varied strands of thought and language as they designed and constructed their individual expository webs. Improvements in any particular writing features thus influenced the pressure on the other fibers as well as the overall pattern of the thread work. By supporting these more fragile writers in the act of composing, oral rehearsal contributed to the construction of more dynamic, finely-crafted webs of meaning.

BIBLIOGRAPHY

Advanced Systems in Measurement and Evaluation, I., & New Hampshire Department of Education (1996). New Hampshire Educational Improvement and Assessment Program.

Anderson, J. R. (1990). Cognitive psychology and its implications (Third ed.). New York: W. H. Freeman and Co.

Applebee, A. N. (1986). Problems in process approaches: Toward a reconceptualization of process instruction. In A. Petrosky & D. Bartholomae (Eds.), The teaching of writing: Eighty-fifth yearbook of the national society for the study of education, part II (pp. 95-113) Chicago: National Society for the Study of Education.

Aubry, V. S. (1994, March). Effects of repeated oral rehearsals and written drafts on the writing of learning disabled adolescents. Paper presented at the meeting of the New England Educational Research Organization, Rockport, ME.

Aubry, V. S. (1995). Audience options for high school students with difficulties in writing. Journal of Reading, 38(6).

Barnes, D. (1993). Supporting exploratory talk for learning. In K. M. Pierce & C. J. Gilles (Eds.), Cycles of Meaning: Exploring the potential of talk in learning communities (pp. 17- 34) Portsmouth, NH: Heinemann.

Benton, S. L., Corkill, A. J., Sharp, J. M., Downey, R. G., and Khramtsova, I. (1995). Knowledge, Interest, and Narrative Writing. Journal of Educational Psychology, 87(1), 66-79.

Bjork, R. A., & Bjork, E. L. (1992). A new theory of disuse and an old theory of stimulus fluctuation. In A. F. Healy, S. M. Kosslyn, & R. M. Shiffrin (Eds.), From learning processes to cognitive processes: Essays in honor of William K. Estes: Vol. II. (pp. 35-67). Hillsdale, NJ: Erlbaum.

Brostoff, A. (1981). Coherence: "Next to" is not "connected to". College Composition and Communication, 32, 278-294.

Calkins, L. M. (1986). The art of teaching writing. Portsmouth, NH: Heinemann.

Calkins, L. M. (1991). Living between the lines. Portsmouth, NH: Heinemann.

Chafe, W. (1983). Speakers and writers do different things. In P. L. Stock (Ed.), Fforum: Essays on theory and practice in the teaching of writing. (pp. 92-94). Upper Montclaire, NJ: Boynton/Cook.

de Beaugrande, R. (1984). Text production: Toward a science of composition. Norwood, NJ: Ablex.

Deno, S., Marston, D., & Mirkin, P. (1982). Valid measurement procedures for continuous evaluation of written expression. Exceptional Children, 48, 583-590.

Dunn, L. M., & Dunn, L. M. (1981). Peabody picture vocabulary test. Circle Pines, MN: American Guidance Service.

Dyson, A. H., & Freedman, S. W. (1991). Writing. In J. Flood, J. Jensen, D. Lapp, & J. Squire (Eds.), Handbook of research on teaching the English language arts (pp. 754-775). New York: Macmillan.

Emig, J. (1971). The composing process of twelfth graders. Urbana, IL: National Council of Teachers of English.

Espin, C. A., & Sindelar, P. T. (1988). Auditory feedback and writing: Learning disabled and nondisabled students. Exceptional Children, 55(1), pp. 45-51.

Flower, L. (1985). Writer-based prose: A cognitive basis for problems in writing. In T. Newkirk (Ed.), To compose: Teaching writing in high school (pp. 76-103). Portsmouth, NH: Heinemann.

Flower, L. (1994). The construction of negotiated meaning: a social cognitive theory of writing. Carbondale and Edwardsville, IL: Southern Illinois University Press.

Flower, L. S., & Hayes, J. R. (1980). The dynamics of composing: Making plans and juggling constraints. In L. W. Gregg & E. R. Steinberg (Eds.), Cognitive processes in writing (pp. 31-50). Hillsdale, NJ: Erlbaum.

Freedman, S. W. (1979). How characteristics of student essays influence teachers' evaluation. Journal of Educational Psychology, 71, 328-338.

Freedman, S. W. (1984). The registers of student and professional expository writing: Influences on teachers' responses. In R. Beach & S. Bridwell (Eds.), New directions in composition research (pp. 334-347). New York: Guilford Press.

Fry, E. (1968). A readability formula that saves time. Journal of Reading, 11, 513-516, 578.

German, D., & Simon, E. (1991). Analysis of children's word finding skills in discourse. Journal of Speech and Hearing Research, 34, 309-316.

German, D. J. (1994). Word finding difficulties in children and adolescents. In G. Wallach & K. Butler (Eds.), Language learning disabilities in school-age children and adolescents (pp. 323-347). New York: Merrill.

Gillam, R., & Johnston, J. (1992). Spoken and written language relationships in language/learning-impaired and normally achieving school-age children. Journal of Speech and Hearing Research, 35, 1303-1315.

Goody, J., & Watt, I. (1968). The consequences of literacy. In J. Goody (Ed.), Literacy in traditional societies (pp. 27-68). New York: Cambridge University Press.

Graham, S., & Harris, K. (1994). The role of self-regulation in the writing process. In D. Schunk & B. Zimmerman (Eds.), Self-regulation of learning and performance: Issues and applications (pp. 203-228). Hillsdale, NJ: Erlbaum.

Graham, S., Harris, K., MacArthur, C., & Schwartz, S. (1991). Writing instruction. In B. Wong (Ed.), Learning about learning disabilities (pp. 309-343). San Diego: Academic Press, Inc.

Graves, D. (1983). Writing: Teachers and children at work. Portsmouth, NH: Heinemann.

Green, D. H. (1988). Consumers in the economy. Cincinnati, OH: South-Western Educational Publishing.

Gregg, N. (1991). Disorders of written expression. In A. Bain, L. Bailet, & L. Moats (Eds.), Written language disorders (pp. 65-97). Austin, TX: Pro-Ed.

Grobe, C. (1981). Syntactic maturity, mechanics, and vocabulary as predictors of quality ratings. Research in the Teaching of English, 15, 75-85.

Halliday, M. A. K. (1987). Spoken and written modes of meaning. In R. Horowitz & S. J. Samuels (Eds.), Comprehending oral and written language (pp. 55-82). San Diego, CA: Academic Press.

Hansen, J., & Graves, D. (1991). The language arts interact. In J. Flood, J. Jensen, D. Lapp, & J. Squire (Eds.), Handbook of research on teaching the English language arts (pp. 805-819). New York: Macmillan.

Havelock, E. A. (1963). Origins of western literacy. Toronto: Ontario Institute in Education.

Hayes, J. R., & Flower, L. (1980). Identifying the organization of writing processes. In L. W. Gregg & E. R. Steinberg (Eds.), Cognitive processes in writing (pp. 3-30). Hillsdale, NJ: Erlbaum.

Hillocks, G. (1984). What works in teaching composition: A meta-analysis of experimental treatment studies. American Journal of Education 93(1), 133-169.

Hunt, K. (1970). Syntactic maturity in school children and adults. Monographs of the Society for Research in Child Development, 35(Serial No. 134).

Huot, B. (1990). The literature of direct writing assessment: Major concerns and prevailing trends. Review of Educational Research, 60(2), 237-263.

Isaacson, S. (1988). Assessing the writing product: Qualitative and quantitative measures. Exceptional Children, 54(6), 528-534.

Kaplan, E., Goodglass, H., & Weintraub, S. (1983). Boston naming test. Philadelphia: Lea & Febriger.

Kellogg, R. T. (1987). Effects of topic knowledge on the allocation of processing time and cognitive effort to writing processes. Memory & Cognition, 15(3), 256-266.

Kroll, B. (1983). Speaking-writing relationships in the growth of writing abilities. In P. L. Stock (Ed.), Fforum: Essays on theory and practice in the teaching of writing. (pp. 94-96). Upper Montclaire, NJ: Boynton/Cook.

Levine, M. (1987). Developmental variation and learning disorders. Cambridge: Educators Publishing Service.

Lofty, J. (1996). More than lip service: Oracy's coming of age in Britain's national curriculum. English Education, 28(1), 4-38.

MacWhinney, B. (1991). The CHILDES Project: Computational Tools for Analyzing Talk. Pittsburgh: Carnegie Mellon University.

McCutchen, D., Covill, A., Hoyne, S., & Mildes, K. (1994). Individual differences in writing: Implications of translating fluency. Journal of Educational Psychology, 86(2), 256-266.

McFadden, T. U., & Gillam, R. B. (1996). An examination of the quality of narratives produced by children with language disorders. Language, Speech, and Hearing Services in Schools, 27, 48-56.

Moffett, J. (1968). Teaching the universe of discourse. Boston: Houghton Mifflin.

Murray, D. (1982). Learning by teaching: Selected articles on writing and teaching. Portsmouth, NH: Heinemann.

Myers, M. (1981). A procedure for writing assessment and holistic scoring. Urbana, IL: National Council of Teachers of English.

Myklebust, H. R. (1965). Development and disorders of written language: Volume I, Picture story language test. New York: Grune & Stratton.

Neilson, L., & Piche, G. (1981). The influence of headed nominal complexity and lexical choice on teachers' evaluation of writing. Research in the Teaching of English, 15, 65-74.

Newcomer, P., & Barenbaum, E. M. (1991). The written composing ability of children with learning disabilities: A review of the literature from 1980 to 1990. Journal of Learning Disabilities, 24(10), 578-593.

Newkirk, T. (1991). The learner develops: The high school years. In J. Flood, J. Jensen, D. Lapp, & J. Squire (Eds.), Handbook of research on teaching the English language arts (pp. 331-348). New York: Macmillan.

Nippold, M. (1988). Later language development: Ages nine through nineteen. San Diego, CA: College Hill Press.

Nippold, M. (1992). The nature of normal and disordered word finding in children and adolescents. Topics in Language Disorders, 13(1), 1-14.

Olson, D. R. (1991). Literacy as metalinguistic activity. In D. R. Olson & N. Torrance (Eds.), Literacy and orality (pp. 251-270). New York: Cambridge University Press.

Ong, W. J. (1982). Orality and literacy: The technologizing of the word. New York: Methuen.

Otte, G. (1995). In-voicing: Beyond the voice debate. In J. Gallop (Ed.), Pedagogy: The question of impersonation (pp. 147-154). Bloomington, IN: Indiana University Press.

Pinker, S. (1994). The language instinct. New York: William Morrow & Company.

Psychological Corporation. (1992). Wechsler Individual Achievement Test. San Antonio, TX: Harcourt Brace.

Robinson, J. (1990). Conversations on the written word. Portsmouth, NH: Boynton/Cook.

Rubin, H., & Liberman, I. (1983). Exploring the oral and written language errors made by language disabled children. Annals of Dyslexia, 33, 11-20.

Rumelhart, D. E. (1980). Schemata: The building blocks of cognition. In R. Spiro, B. Bruce, & W. Brewer (Eds.), Theoretical issues in reading comprehension (pp. 33-58). Hillsdale, NJ: Erlbaum.

Sanford, A. J., & Garrod, S. C. (1981). Understanding written language: Explorations in comprehension beyond the sentence. Chichester: John Wiley & Sons.

Scardamalia, M., & Bereiter, C. (1986). Research on written composition. In M. C. Wittrock (Ed.), Handbook of research on teaching (pp. 778-803). New York: Macmillan Publishing.

Scardamalia, M., Bereiter, C., & Goelman, H. (1982). The role of production factors in writing ability. In M. Nystrand (Ed.), What writers know: The language, process, and structure of written discourse (pp. 173-209). New York: Academic Press.

Scherer, D. L. (1985). Measuring the measurements: A study of evaluation of writing. An annotated bibliography. (ERIC Document Reproduction Service No. 260 455).

Scribner, S., & Cole, M. (1981). The psychology of literacy. Cambridge, MA: Harvard University Press.

Semenza, C., & Zettin, M. (1989). Evidence from aphasia for the role of proper names as pure referring expressions. Nature, 342, 678-679.

Shaughnessy, M. (1977). Errors and expectations: A guide for the teacher of basic writing. New York: Oxford University Press.

Simpson, M., Olejnik, S., Yu-Wen Tam, A., & Supattathum, S. (1994). Elaborative verbal rehearsals and college students' cognitive performance. Journal of Educational Psychology, 86(2), 267-278.

Snyder, L. S., & Godley, D. (1992). Assessment of word-finding disorders in children and adolescents. Topics in Language Disorders, 13(1), 15-32.

Thomas, C. C., Englert, C. S., & Gregg, S. (1987). An analysis of errors and strategies in the expository writing of learning disabled students. Remedial and Special Education, 8(1), 21-30.

Thorum, A. R. (1986). The Fullerton language test for adolescents (Revised ed.). Palo Alto, CA: Consulting Psychologists Press.

Veal, L. R., & Hudson, S. A. (1983). Direct and indirect measures for large-scale evaluation of writing. Research in the Teaching of English, 17, 285-296.

Vygotsky, L. S. (1962). Thought and language (Hanfmann, Eugenia & Vakar, Gertrude, Trans.). Cambridge, MA: Massachusetts Institute of Technology Press.

Vygotsky, L. S. (1978). Mind in society: The development of higher psychological processes. Cambridge, MA: Harvard University Press.

Willoughby, T., Wood, E., & Khan, M. (1994). Isolating variables that impact on or detract from the effectiveness of elaboration strategies. Journal of Educational Psychology, 86(2), 279-289.

Wittrock, M. C. (1983). Writing and the teaching of reading. Language Arts, 60(5), 600-606.

Wittrock, M. C. (1990). Generative processes of comprehension. Educational Psychologist, 24, 245-376.

Wittrock, M. C. (1991). Generative teaching of comprehension. The Elementary School Journal, 92(2), 169-184.

Wolf, M. (1991). Naming speed and reading: The contribution of the cognitive neurosciences. Reading Research Quarterly, 26, 123-141.

Wolf, M., & Goodglass, H. (1986). Dyslexia, dysnomia, and lexical retrieval: A longitudinal investigation. Brain and Language, 28, 154-168.

Wolf, M., & Obregon, M. (1992). Early naming deficits, developmental dyslexia, and a specific deficit hypothesis. Brain and Language, 42, 219-247.

Wolf, M., & Segal, D. (1992). Word finding and reading in the developmental dyslexias. Topics in Language Disorders, 13(1), 51-65.

Wong, B., Wong, R., & Blenkinsop, J. (1989). Cognitive and metacognitive aspects of learning disabled adolescents' composing problems. Learning Disability Quarterly, 12(3), 300-322.

APPENDIX

Teenagers in the Market

Teenagers, like most adults, often think they never have enough money. Teen-Age Research Unlimited found, however, that teenagers were spending over $65 billion annually by the mid-1980's. According to one survey of teenagers, the nation's teenagers spend an average $80 of their own money per month on items of their own choosing. This makes teenagers an increasingly powerful force in the marketplace. From cosmetics to pizzas and from videotapes to records, teenagers make up a huge market. With their basic needs taken care of by parents, most teenagers are also doing a lot of household purchases. The family is still funding the purchases, such as groceries, but many teens are doing the buying. Teenagers have also become a powerful and growing force in persuading parents to buy the latest products introduced for the home and family. Many teenagers develop brand loyalties early and exert influence when the family makes major purchases such as food, cars, electronic products, and entertainment items.

Several reasons account for the increasing influence of teenage consumers in the marketplace. One reason young people have so much buying power is that more of them are working. They also have more access to credit than in past years. Another reason has to do with the changing nature of American families. Many teenagers do their family's weekly grocery shopping because approximately 50 percent of homes with teens have a full-time working mother. An additional 20 percent have a part-time working mother.

Because of the purchasing power of teenage consumers, some marketing researchers have segmented teenagers into four groups. The four groups are the Socially Driven, the Diversely Motivated, the Socioeconomically Introverted, and the Sports-Oriented. Socially Driven teens are seen as having

the highest disposable incomes, which they spend on personal grooming and clothing to help them in their drive for status. This is the most brand-conscious group. Diversely Motivated teens are the most energetic and adventurous. According to the researchers, Diversely Motivated teens are equally as comfortable in solitary activities as in group ones and are the most cultured of the four groups. Solitary activities appeal to Socioeconomically Introverted teens, who spend their money on products and services for use in their lone pursuits. Sports-Oriented teenagers represent the greatest market for sports equipment. They also show the most interest in home video equipment. As teenagers are allowed to make more choices, they have the opportunity to develop responsibility and to become better informed about their world in general. (Green, 1988, pp. 36-37)

Career Decisions

The number of occupations in the United States can be counted in the thousands. Some occupations require long periods of education or training. A few jobs do not. But most require some post-high-school education or training. Of the 40 occupations with the largest projected job growth in the next decade, only one in four will require a college degree or specialized technical training according to employment projections for 1995 published by the U. S. Bureau of Labor Statistics. The Bureau of Labor Statistics groups occupations in 13 clusters of related jobs. With the large number of occupational choices in front of you, you may be asking, "Where do I begin?"

Start with what you know about your own interests and abilities. Do you like frequent contact with other people or do you prefer to spend a lot of time alone? Are you a good follower or do you like to direct others in a work effort? Identify your personal strengths in skills such as communication, social work, computation, investigation, manual work, creative efforts, interpersonal relations, and management. The next step is to match your individual talents, interests, and goals with those required by various fields of work. It's important to remember that money isn't everything. For many of the happiest workers, the payoff is in "psychic income": that is, a career that allows them to pursue a dream, perform a public service, or simply spend more time with their families. This step requires asking a lot of questions about different occupations. Start by asking the following: "Will I enjoy the work? What abilities and skills are required? What is the working environment? Are there opportunities to be of service to others? Are there jobs available in the

career area? What are the opportunities for advancement? How well does the job pay? How much education or specialized training does the career require?"

A good place to begin your exploration is with the *Occupational Outlook Handbook* published by the Bureau of Labor Statistics. Many other sources are available in school and public libraries. An interview with people in the same field also is helpful in answering many questions. Remember that as the demand for goods and services changes, workers often have to change jobs also. It is estimated that college-educated workers change jobs an average of four to eight times in their lifetimes. Workers with high school educations change jobs more frequently. Formal education, apprenticeships, and on-the-job training are investments in yourself. Such training requires money, time, energy, and commitment. In the long run, such investments usually pay off in greater lifetime earnings and job satisfaction. (Green, 1988, pp. 174-175)

Teenagers in the Market

	Material	**Reactions/examples/ elaboration/applications**
Overview: Teenagers are becoming a powerful force in the marketplace **or** How marketing strategists see . teenagers	1 _____	1 _____
A. Extent of teenage spending:		
1. $65 billion annually		(comment about: extent of spending;
2. $80/month of own money on personal choices		personal spending patterns;
3. Basic needs taken care of by parents	(.5 each)	impact on families, etc.)
4. Many household purchases persuading parents/buying themselves	0-2 _____	1 _____
B. Reasons for increasing influence:		(comment about: their own jobs;
1. More teens working		changing families; mothers-50%,20%;
2. Access to credit	(1 point each)	their roles)
3. Change in American families; (parents work)	1, 2, or 3 _____	1 _____
C. For marketing purposes, teens segmented into four groups:		(names groups; elaborates on types; tells which group they'd be in; where friends fit; how true)
	1 _____	1 _____
D. Conclusions: Teens able to make choices, develop responsibility, become informed **or** how advertising strategies can manipulate for profit.		(reaction to responsibility; comment on advertiser manipulation in relation to them)
	1 _____	1 _____
E. Appropriate use of new vocabulary (Socially Driven, Diversely Motivated, Socioeconomically Introverted, or Sports-Oriented)	1 _____	

Career Decisions

	Material	**Reactions/examples/ elaboration/application**
Overview: Article explains how to choose a career and plan for it.	1	1

A. Job market patterns that influence career choice

1. Most jobs require some post high school education and/or training.		(reaction to need for education;mention-according to projections for 1995-BLS;
2. Only one in four of jobs with most growth requires college degree	(1 point each)	elaborate on # of job changes or reasons why)
3. College educated workers change jobs but high school grads change more frequently	1, 2, or 3	1

B. Process to follow

1. Identify interests and abilities (questions about yourself)		(what process have they followed; what questions; what is most important for
2. Match talents, interests, and goals to those required by various fields		them in choosing a job; what opportunities have they had to explore)
a. Payoff can be non-monetary -"psychic income"	(.5 point each)	
b. Ask questions about jobs	1 or 2	1

C. Resources available

1. <u>Occupational Outlook Handbook</u> Bureau of Labor Statistics	(.5 each, up to 1)	(how any of these could help; other resources; their experiences with resources)
2. Sources in schools and public libraries	1	1
3. Interview those in career		

D. Formal education, apprenticeships, and on the job training are investments in yourself --greater lifetime earnings and job satisfaction		(personal educational plans; reasons why these are important)
	1	1

E. Appropriate use of new vocabulary (psychic income)	1	

Holistic scoring

1 Point   Response demonstrates that the student attended to the prompt and attempted to respond to it. Response is either extremely bare or has only vague or sketchy details. Lacks organization or focus.

2 Points   Response has several details with some extension but no real development. Or response has many details, but details are listy and random. Response is unfocused, more like free writing, and thought patterns are difficult to follow.

3 Points   Response has several extended, specific details with some elaboration. Or the response has many details with little elaboration. The focus is limited or unclear. Poor transitions and possible chaining.

4 Points   Response is moderately fluent and generally well written. It has many details with extension and elaboration. Details may be grouped according to subject (e.g., Job facts, process of choosing, resources, personal experiences; or teenage spending patterns, reasons for influence, marketing groups, reactions) Or the details may be arranged according to the point of view (the author's thoughts on the matter compared to and contrasted with the student's).

5 Points   Response contains details that are specific and varied and may be vivid. Generally has a sense of unity and follows a logical order, but may contain minor gaps or other organizational flaws. Writing is generally fluent, and the author seems aware of the audience and the task requirements.

6 Points   Response is complete and unified. It is thorough, well organized, and well written and contains effective transitions. The writing may also be vivid and demonstrate strong attention to detail.