DEVELOPMENT OF PLANNING SKILLS IN NOVICE WRITERS

by

Janette Elizabeth Martin

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Name: Janette Elizabeth Martin

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Examining Committee:

   Chair: Kelleen Toohey

                          Leone M. Prock
                          Senior Supervisor

                          Carolyn M. Mamchur
                          Associate Professor

                          Dr. Alan Taylor
                          Director of Instruction
                          Curriculum/Assessment
                          Coquitlam School District
                          External Examiner

               Date Approved _91.03.26_

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Janette Elizabeth MARTIN

(name)

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ABSTRACT

Novice writers typically develop their text by using a "what-do-I-say-next" approach until all information on the topic is exhausted. Skilled writers, in contrast, make rhetorical decisions and incorporate a framework of goals as part of a planning procedure that controls the text as a whole.

The purpose of this study was to investigate the extent to which novice writers adopt the planning processes of expert writers through skill reconstruction. Grade 5 and 6 students were exposed to rhetorical planning strategies in order to promote the exchange of their current writing habits for the problem-solving procedures of expert writers. Following twelve treatment lessons in which the students observed and practised these procedures, they were individually asked to think aloud while planning for and writing an opinion essay. Audiotapes of both experimental and control group protocols provided the data used to measure the effectiveness of the treatment.

The results indicated that, although the modelling of expert planning strategies did not affect the quality of the written product, the novice writers in the experimental group did spend a significantly longer time in planning their compositions. There was also a significant increase in the number of rhetorical decisions made during this planning portion. The exposure of novices to expert planning strategies did not appear to have a significant effect on their confidence or motivation levels as they approached the writing task.

Throughout this study, the ultimate challenge was to inspire novice writers to be more aware of their metacognitive development as they were presented with the rhetorical planning strategies used by expert writers.

This thesis is dedicated to my Mom and Dad, who have always viewed education as something to be valued, and who continue to show the same love and support for me now as they did on my first day at school.

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I wish to thank my supervisory team, Dr. Leone Prock and Dr. Carolyn Mamchur, as they gave me many valuable recommendations for improving my written product. The dedication of my senior supervisor, Leone Prock, to the quality of the thesis was well appreciated.

Finally, I have had the privilege of sharing my life with a consummate learner who has continually shown a zeal for acquiring knowledge and sharing it with others. I wish to thank my husband, Murray Martin, for providing such a model.

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INTRODUCTION

The "writing process" has become a popular phrase amongst teachers in the past decade. Teachers of writing in recent years have not only been encouraged to consider the what and the why of their craft, but also stimulated to look at the how. The focus has shifted toward the process rather than the product, the composing rather than the composition. This seemingly new approach to teaching writing has been initiated by investigators and researchers who have, through their publications, encouraged teachers to model the experts' approach to writing.

Traditionally, novice writers in the school system have been faced with writing assignments given by their teachers. On some occasions, the assignments may have a more directed and motivational purpose such as writing a letter to a penpal in another school or writing up a description of a scientific process for the Science Fair. Most times, however, the writing has been assigned to be read only by the teachers and a few classmates, and to be graded for the report card. Why, then, do students as novice writers perceive the time given to writing composition as anything but stifling and something to be endured? Do they equate a knowledge of the rules of grammar and genre with a knowledge of writing? What do they receive in a classroom writing lesson? It would seem that the finished product is much too narrow a focus if students are to be assisted in becoming skillful writers.

The more recent approaches by teachers who have been instrumental in setting up writing workshops and conferences with their students have produced a refreshing shift in emphasis. Teachers who have taken the time to study the strategies by which their students go about writing have found that

they have set aside their traditional roles as instructors and have got more involved in questioning rather than answering and in learning rather than teaching.

As well, teachers who have taken the time to study the processes by which expert writers think about their writing and to work through areas of planning, drafting, revision, and editing have gained insights into the ultimate strategies that they would want their students who are novice writers to eventually adopt as they develop their writing abilities. Of these multiple and recursive stages in the process of reaching a finished copy, the one that will be focussed on in this paper is the planning time. Much of this planning occurs in the form of a "rehearsal" (Murray, 1982, in Calkins, 1986, p. 17). This rehearsal of ideas can evolve from a visualization, an observation, by reading, or talking, and can grow into a purposeful desire to get the ideas written down for an intended audience. Although pauses are taken for planning throughout the writing of the text (Flower & Hayes, 1981c), a large amount of the "rehearsing" is done prior to the time that the initial draft begins.

The planning time that precedes the first draft of a composition is, according to studies conducted by Flower and Hayes of Carnegie Mellon University (1980a, 1980b, 1981a, 1981b), one of the most important parts in the process of writing. Indeed, some research indicates that experts spend up to 85% of their writing time in the "prewriting" stage (Murray, 1972; Burtis, Bereiter, Scardamalia, & Tetroe, 1983).

Statement of the Problem

Given a topic, the novice writer develops his composition in an "add-on" approach, building a paragraph with ideas as they come to mind until he has exhausted his knowledge of the topic's content. Unless this approach is

interfered with, the novice becomes more practiced in this routine and allows it to become the automatic method of addressing his written assignments.

The skilled writer, in contrast, has a sense of a goal. He takes the time before and during composition to do rhetorical planning, looking at his task in a more global problem-solving perspective. It is a topdown approach where the writing is controlled by an executive framework. This framework includes primary goals and subgoals largely developed prior to drafting the composition and which guides the development of the composition.

In their paper presented at the American Educational Research Association in 1984, Bereiter and Scardamalia contrast procedures that novice and skilled writers use. The expert model, that of knowledge transformation, incorporates the knowledge-telling model of the novices along with the addition of interactive problem spaces. The projected outcome of the expert model is one of problem solving and goal-directed planning.

The studies of Flower and Hayes (1981c) indicate that expert writers spend a major portion of their time in setting goals, subgoals, and checking each decision in their writing with these goals. This type of effort is not present in the protocols of novice writers (Burtis et al, 1983).

The problem, then, is how to "harness knowledge-telling to goal-seeking and problem-solving strategies" (Bereiter & Scardamalia, 1984, p. 6); that is, to encourage and teach students to spend more time in the prewriting stage of the writing process, the stage which incorporates idea generation with organization and goal setting.

The Purpose for Addressing the Problem

The goal of the teacher is to create an environment that allows for more effective writing. A measure of "effectiveness" would be the extent to which the writer imitates the expert.

Why is there a need to teach students about planning? Would they not, with time and practice, develop effective writing skills? Bereiter and Scardamalia (1984) note that, if this is the case, teachers are wasting their time since children are already able to connect their thoughts in sentences before they have their first composition lesson. Rather, they propose that something more is needed in the form of skill reconstruction where the achievement of a higher level of cognitive expertise would include some form of strategic control over the "automatic procedures" involved in putting sentences down to form a paragraph.

Skills involved in producing a written record have contrasting features from the oral communication that the novice writer learns at an early age. Now, the child has to compensate for the lack of immediate feedback from a conversational partner. Also, he has more time to contemplate what he wants to say, and his composition has a permanency which implies that his words can be revisited. Since the novice writer is more experienced in oral language, he faces the challenges of reaching a now imagined audience, staying with the topic, and thinking of what he will say on that topic.

Teachers of writing should allow novices to move from the sentence-level "what-do-I-say-next" planning strategies to a whole-text type of planning. The author's premise is that this transition can be accelerated by subjecting them to instruction focussed on that type of planning.

Statement of the Hypotheses

The author proposes to speed up the integration of "whole-text planning" into the writing process of novices by subjecting them to a variety of planning strategies combined with tasks designed to focus on prewriting methods. This thesis is based on the skill reconstruction approach presented by Bereiter and Scardamalia (1984).

Four hypotheses have been generated as follows:

1. With exposure to planning methods used by expert writers, novice writers will spend more time in the planning stage of the writing process.

2. With exposure to planning methods used by expert writers, novice writers will increase the percentage of their planning time in making rhetorical choices as opposed to linguistic choices.

3. With exposure to planning methods used by expert writers, the quality of the written product of novice writers will improve.

4. With exposure to planning methods used by expert writers, novice writers will have greater confidence and motivation to write.

Limitations of the Study

1. The subjects were from a single classroom in a school in Port Coquitlam, British Columbia. This sample may not have been representative of the target population.

2. The sample size for each of the control and experimental groups was ten, a relatively small number.

3. The genre chosen for the treatment lessons and essay assignment was opinion writing, which limited student choice.

4. The investigator was the teacher for the experimental group, creating a possibility for a bias effect on the data collection.

5. In order to accommodate the researcher's timeline and the school's time schedules, the lessons took place between April 15, 1990 and May 17, 1990. This was a shortened period of time in order to allow the data collection to be completed before the summer vacation. The data were collected between May 23, 1990 and June 20, 1990 at various times and in various locations. Some of the circumstances under which the data were collected were more ideal than others.

6. An arbitrary decision was made to use the masculine pronoun to represent both genders throughout the text.

Definition of Terms

Definitions for the following terms are connected to how they are understood and used in this thesis.

Planning - two parts of Webster's definition are appropriate for this context:
a. a detailed formulation of a program of action [to reach a] goal; b. an orderly
arrangement of parts of an overall design or objective (Webster, 1974).

Rhetorical choices - choices concerned with effective writing, of
communicating in the most powerful way possible.

> Though [rhetoric] is instrumental in the discovery of
> ideas and information, its characteristic function is
> the publication, the publicizing, the humanizing, the
> animating of them for a realized and usually specific
> audience.
>> (Corder, 1971, p. 18)

> Because of rhetoric, cookbooks are not written like
> legal contracts, insurance policies do not read like
> love letters....This desire of writers to please, to
> communicate with their audience, is the basic law of
> rhetoric.
>> (Winkler & McCuen, 1984, p. 5)

In the case of this paper, rhetorical choices include such considerations as
audience, goals, and purpose.

Linguistic choices - choices concerned with the content of the text. In the case
of this paper, linguistic choices incorporate the "what-do-I-say-next" type of
planning.

Conceptual Planning - planning that focuses on goals, organization of text, and other rhetorical choices. "The outcome of conceptual planning is not text content or language, rather it is knowledge that guides or interprets the choice of content and language." (Bereiter & Scardamalia, 1987b, p. 203)

Content Generation - the production of words which will become part of the written text.

Novice writers - beginning writers who, in the context of this paper, are elementary school-aged. The implication of beginning writers is not to mean that teachers can start afresh. It must be recognized that even beginning writers have already begun to gather processes which are elaborate and deeply embedded (Perl, 1979). These processes must be altered in the quest for a better understanding of the writing process for these writers.

Expert writers - writers who have acquired recognized skill in the field and who, in the context of this paper, have the ability to make rhetorical choices as well as generate text in the process of planning. The term "expert writers" is used synonymously with "skilled writers".

Prewriting - the stage in the process of producing a written document which precedes the writing of the first draft of the document. It is a stage where many of the writer's plans are formulated. The term "prewriting stage" is not meant to imply that the process of writing is linear. Neither is the writing process readily divided into separate consecutive stages. The planning that goes on in the prewriting stage could be continued partway through the first draft, for instance, and various stages of composition could be entwined in a recursive process.

CHAPTER TWO

REVIEW OF THE LITERATURE

Introduction

[Writing] presents us with the spectacle of a
man passionately involved in thinking an
important question through, in the company
of an audience.

(Booth, 1966, in Corder, 1971, p. 136)

Typically, one of the earliest forms of human communication is speech, the forerunner to written expression. In oral expression, the audience is present, stimulating the communication both physically and intellectually. The ensuing conversation immediately influences the direction and structure of the child's discourse, and the content is controlled by the context of the dialogue.

As the child learns to express himself through writing, his discourse no longer depends on the context generated by a conversational partner. He must create his own rhetorical strategies which include visualizing his audience and effectively structuring content retrieved from his long term memory (Witte & Cherry, 1986; Bereiter & Scardamalia, 1987b). Contrary to the immediate give-and-take of conversation, the writer has more time to reflect on his communication. It is up to the writer to evaluate his work for effective presentation without the aid of signals or utterances from the conversational partner. With the absence of this verbal dialogue, it is important that the writer achieve a message that will be clearly understood with the purpose intended. Thus, there is a greater need to spend time planning its content.

Can a child produce planned effectively written documents? A review of the literature surrounding this question provides the focus for this chapter.

The Process Approach

Many contrasts have been drawn between the process approach and product approach to writing (Perl, 1979; Pianko, 1979; Barrs, 1983; Warnock, 1984; Odell, 1983, in Witte & Cherry, 1986; Flower & Hayes, 1986). Giving attention to the process has broadened the perspective of the writing task. Merely judging the writer's performance by the final product hides some basic competencies (Perl, 1979). A meta-analysis of research in writing instruction by Hillocks (1984) reinforces the success of process-oriented instruction over product-oriented instruction. Although a written document gives insight into the writer's analytic skills, it does not give sufficient insight into the cognitive steps leading up to the final product. In the past two decades, many research studies have focussed on these steps.

Models showing the various stages in the writing process have been updated by more recent research on how writers write. The original linear-stage models which hinged on the simple stages of prewriting, writing, and rewriting (Britton, 1975; Murray, 1978) or planning, sentence generation, and revision (Hayes & Flower, 1987) have taken a back seat to the more sophisticated multi-level models which seek to show the thinking processes that go into producing a final product (Witte & Cherry, 1986; Calkins, 1989). In the latter, operations take place simultaneously, some automatically and some controlled consciously (Warnock, 1984). These models allow for iteration, in that some steps would be repeated throughout the period of writing (Perl, 1979; Gould, 1980; Hayes & Flower, 1981a, 1987), and recursion, with repetitions at different levels of the process (Hayes & Flower, 1981a, 1986,

1987; Berkenkotter, 1983; Murray, 1983; Peacock, 1986; Stotsky, 1988, in Langer, 1988).

One model which has come from the research of Flower and Hayes is the cognitive process model.

The Cognitive Process Model

This model shows that the act of writing involves three component parts that interact: the writer's long-term memory, the task environment, and the composing process. (See Figure 1). Within the scope of the writer's long-term memory is the knowledge of the topic, the audience, and the stored writing plans. The task environment includes the rhetorical problem (topic, audience, and motivating cues) and the text that has been produced so far. The two components in the task environment interact with the composing processes, which consist of planning (generating, organizing, and goal setting), translating (expressing ideas and goals), and reviewing (evaluating and editing).

A monitor allows the writer to move back and forth among the composing processes so that each step can be embedded in one another, being interrelated and interdependent (Peacock, 1986). The model is goal-directed and the goals and processes are hierarchically organized . For example, idea generation is embedded in planning which is embedded in the composing process.

The planning process functions through the retrieval of information from long-term memory and the task environment. Goals are then set and a composing plan is put into action that will accomplish these goals in the production of the text.

FIGURE 1. The Cognitive Process Model

From "A Cognitive Process Theory of Writing" by L. Flower and
J. R. Hayes, 1981, College Composition and Communication,
32, p. 370. Copyright 1981 by the National Council of Teachers
of English. Reprinted with permission.
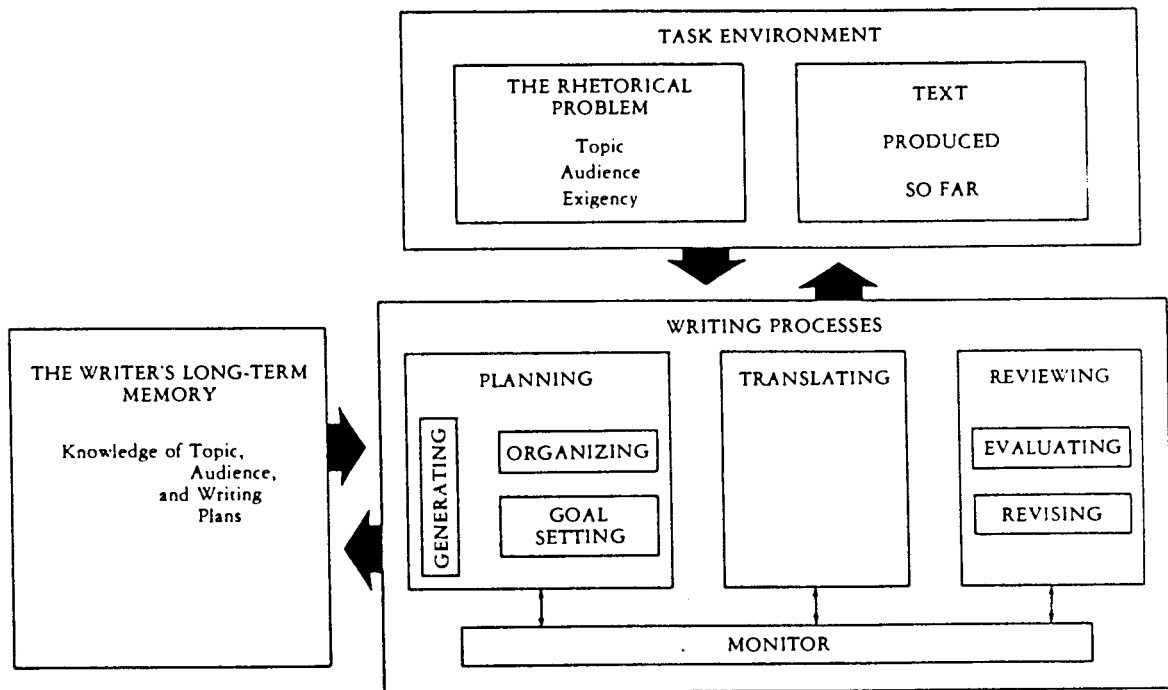
Consider, as an illustration, the Grade 8 student who is assigned by

his Science teacher to write a report about beluga whales for a Fourth

Year Primary class. Information may be generated about the assignment

from long-term memory such as the fact that the beluga whale is a marine

mammal and that the Vancouver Aquarium has recently acquired three

new belugas. From the task environment would come the considerations, for example, that the readers are in Fourth Year Primary and that the Science teacher will be counting this assignment as 10% of the term's mark. After several items had been retrieved, the most useful parts would be organized into a plan for writing.

As well, some of the retrieved items would be used to judge the text. Studies by Hayes and Flower in 1980 (Burtis et al, 1983) showed that about 80% of the verbal protocol statements of adult writers made early in the composing process included the three subprocesses; namely, generating, organizing, and goal-setting from this planning model.

Hayes and Flower also included, in their later studies (1986), a set of three considerations for the writer when he is involved in planning:

1. knowledge representation, with a variety of formats including language and images (for example, a smile);

2. the source of the writing plan, including knowledge of the topic, knowledge of genre and style, and knowledge of other strategies to solve problems when traditional formats are not feasible;

3. strategic knowledge; that is, defining the writing task, being able to draw on procedural knowledge, and being able to direct the writing process for oneself.

In contrast to the strategic knowledge inherent in skilled writers is the knowledge-telling strategy presented in the model by Scardamalia and Bereiter.

The Knowledge-Telling Model

In this model, the goal of the writer is to present whatever knowledge he has, provided it conforms to the assignment requirements and the topic. Little consideration is given to rhetorical problems such as the reader and strategic organization of information for that reader. (See Figure 2).

FIGURE 2. The Structure of the Knowledge-Telling Model

From The Psychology of Written Composition (p. 8) by
C. Bereiter and M. Scardamalia, 1987, Hillsdale, New Jersey:
Lawrence Erlbaum Associates. Copyright 1987 by Lawrence
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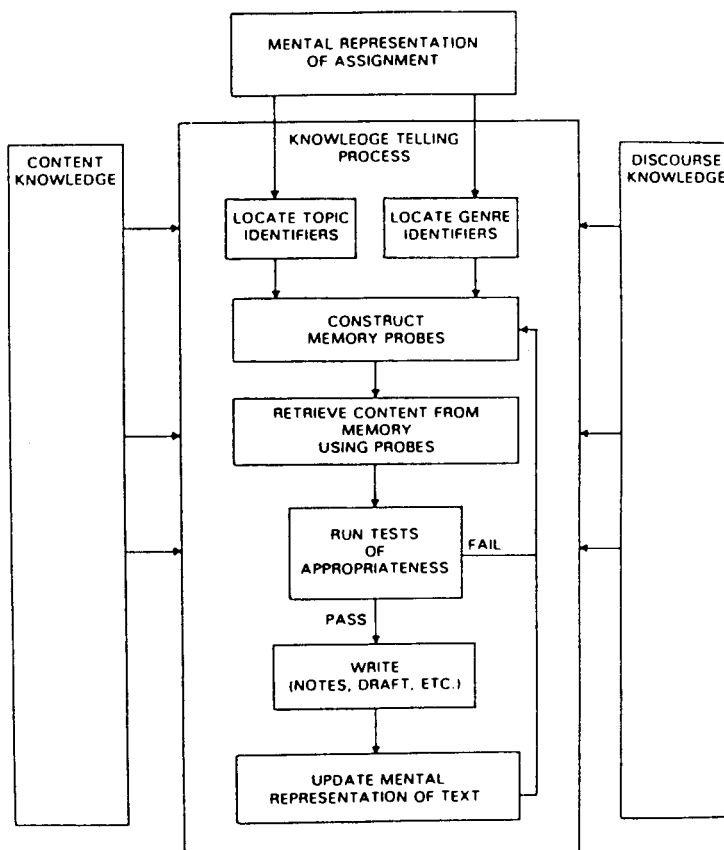
The writer utilizes a "psychology of the natural" (Bereiter & Scardamalia, 1987b, p. 5), using natural linguistic endowments to express himself in a mainly non-reflective, linear manner. This is "writer-based prose" (Flower, 1980) as opposed to "reader-based prose". Even an opinion essay or evaluative assignment would simply cause the writer to draw on his knowledge in an "add-on" linguistic approach. For example, in evaluations done with 13 and 17 year olds (Scardamalia & Bereiter, 1985b), a persuasive writing assignment showed a list of reasons supporting a statement of belief, rather than a convincing and carefully laid-out argument. Bereiter and Scardamalia (1987b) have observed through verbal protocol analysis that there is a close resemblance between the thoughts of the writer utilizing this model's format and the ensuing written product. The result for novices, then, is a presentation whose order is directly related to the order of their idea generation (Flower, 1979).

In the opinion of Bereiter and Scardamalia, most school-age students apply the knowledge-telling strategy in their writing. Bereiter and Scardamalia (1985) argue that the educational system conforms to the cognitive strategies used by its students and, thus, promotes the use of this simplistic model. The creators assert that the students, then, are practising a losing strategy which promotes inert knowledge rather than connecting previously separated pockets of knowledge.

For experts, writing involves problem-solving (Flower, 1985b; Scardamalia & Bereiter, 1982). Goals must be constructed and networked through problem-solving techniques instead of drawing on well-practised routines. Problem-solving activities include both content and rhetoric. The writer utilizes a "psychology of the problematic" (Bereiter & Scardamalia, 1987b, p. 5). This reprocessing and reworking of knowledge is evident in

Bereiter and Scardamalia's model of the knowledge-transforming strategies of expert writers.

The Knowledge-Transforming Model

Both the knowledge-telling and knowledge-transforming models represent the mental processes that go on in the composition of the text rather than representing the text itself. One cannot see the manifestation of these models by scrutinizing a person's written work.

"Transformation of knowledge" involves the reprocessing or reworking of knowledge by expert writers. The two-way interaction between knowledge and text makes up the core of this model: knowledge that is continuously developing by the reworking of the writer's rhetorical intentions to achieve set goals, and text that is consequently developing and changing.

> In the process [of achieving those goals], their knowledge is improved -- reflected upon, revised, organized, and more richly interconnected. Thus, they not only produce better writing, but they personally gain more from the process.
> (Scardamalia & Bereiter, 1985b, p. 16)

Here, the former knowledge-telling model has been incorporated into a network of goal-setting, problem-solving, and planning set up by the interaction of two problem spaces: the content space which deals with beliefs and facts, and the rhetorical space which concerns itself with achieving the intentions of the writer. (See Figure 3). Bereiter and Scardamalia (1987b) note a back-and-forth action within the two spaces which lead to a reflective

process. In other words, solutions in one space go on to become problems for the other space to solve.

FIGURE 3. The Structure of the Knowledge-Transforming Model

From The Psychology of Written Composition (p. 12) by C. Bereiter and M. Scardamalia, 1987, Hillsdale, New Jersey: Lawrence Erlbaum Associates. Copyright 1987 by Lawrence Erlbaum Associates. Reprinted with permission.

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                    ┌──────────────────────────┐
                    │  MENTAL REPRESENTATION   │
                    │      OF ASSIGNMENT       │
                    └──────────────────────────┘
                                │
                    ┌──────────────────────────┐
    ╭─────────╮     │    PROBLEM ANALYSIS      │     ╭──────────╮
    │ CONTENT │     │           AND            │     │ DISCOURSE│
    │KNOWLEDGE│     │      GOAL SETTING        │     │KNOWLEDGE │
    ╰─────────╯     └──────────────────────────┘     ╰──────────╯
       │  │                                            │  │
   ┌─────────┐                               ┌──────────────┐
   │ CONTENT │                               │  RHETORICAL  │
   │ PROBLEM │   ┌──────────────┐            │   PROBLEM    │
   │  SPACE  │   │   PROBLEM    │ ────────►  │    SPACE     │
   │         │   │ TRANSLATION  │            │              │
   │         │   └──────────────┘            │              │
   │         │           ┌──────────────┐    │              │
   │         │  ◄─────── │   PROBLEM    │    │              │
   │         │           │ TRANSLATION  │    │              │
   │         │           └──────────────┘    │              │
   │         │   ┌──────────────┐            │              │
   │         │──►│  KNOWLEDGE   │ ◄───────── │              │
   └─────────┘   │   TELLING    │            └──────────────┘
                 │   PROCESS    │
                 └──────────────┘
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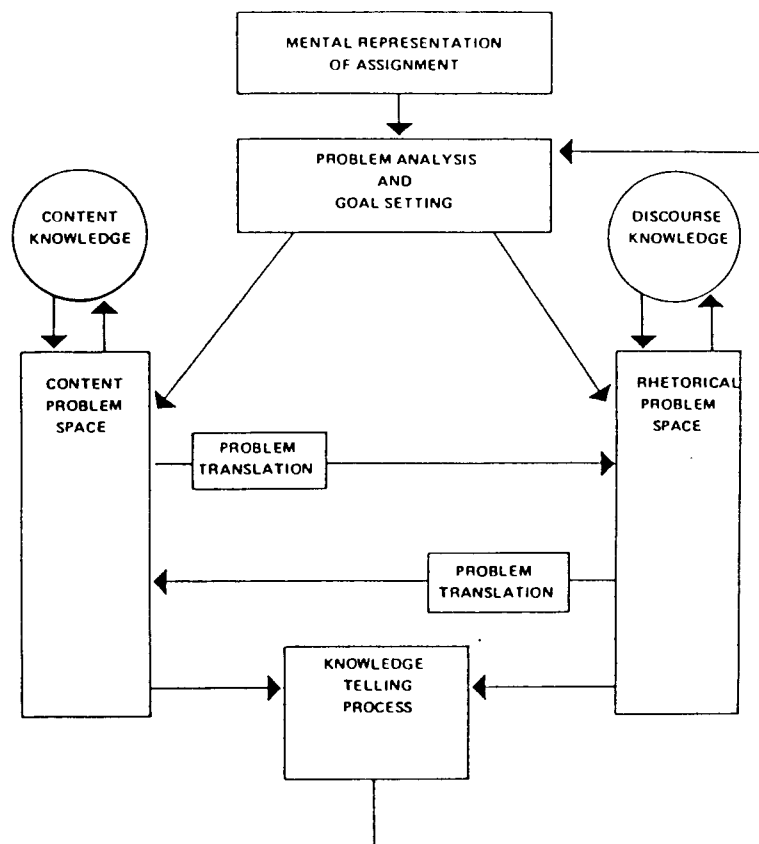
They also note that this dual problem-space model represents the composing processes of experts rather than novices; the latter having the ability to transfer the information from the content to the rhetorical space but being incapable of reversing that transfer.

Some research into the teaching of the knowledge-transforming model approach to novice writers through the provision of planning cues (Burtis et al, 1983; Bereiter & Scardamalia, 1983, 1987b; Brett, p. 316, in Bereiter & Scardamalia, 1987b) would indicate that the thinking processes of expert writers could be taught, particularly to adolescents and adults. The presentation of writing as a problem-solving activity complete with heuristics that could be translated into teachable methods (Flower & Hayes, 1977, in Scardamalia & Bereiter, 1982; Flower & Hayes, 1980b, in Brooke, 1989) is the essence of the author's interest in preparing this thesis. The combination of the think-say strategies of novice writers with the interaction of the problem spaces shown in this model forms the foundation for the method presented in this research. The critical attribute of expert writing, as shown in the knowledge-transforming model, is that the writer shifts from a multi-level structure of internal connections to a linear presentation in the text. The novice, on the other hand, remains on the linear level in going from notes to final text which, to him, is simply an issue of editing (Collins & Gentner, 1980; Beaugrande,1984).

Planning Strategies in the Models

Within the scope of the knowledge-transforming and the cognitive process models, then, are provisions for planning. Flower & Hayes (1981c) confirm the problem space model of Bereiter and Scardamalia when the former researchers discuss planning from two perspectives: the text-based perspective and the more global rhetorical perspective based on problem-solving. These two perspectives represent a linguistic bottom-up and a cognitive rhetorical top-down approach, respectively. A verbal protocol study by Flower & Hayes (1981c) has shown that 60% of the ideas generated by

expert writers are concerned with the top-down rhetorical approach, encompassing such considerations as genre and audience. Novice writers, in contrast, use over 70% of their new ideas to consider the topic or the last item written.

Model Restrictions

The overall picture of instruction involves breaking down the writing processes of expert writers into fixed stages and teaching these techniques to novice writers. There is some skepticism about this philosophy (Cooper & Holzman, 1983; Barrs, 1983; Warnock, 1984; Hunter & Pearce, 1987). The criticism of Cooper & Holzman (1983) is that actions related to cognitive processes can be charted, but not the processes themselves, as implied in the cognitive process model.

> Claiming that a model literally describes real
> processes not only misstates the value of the model,
> it also encourages others to apply the model
> directly, to teach students to behave as the model
> says people behave.
> (Cooper & Holzman, 1983, p. 286)

The representation of the processes of writers as a set of principles would tend to stifle those who do not emulate the models in their actual practice of arriving at a finished written product (Barrs, 1983; Hunter & Pearce, 1987). It would also restrict pedagogical methods by offering a prescriptive approach to writing instruction (Barrs, 1983). It is reasonable to assume that many teachers would distort the value of such models.

Novice Writers

If novice writers are to develop the strategies of experts, as anticipated in a limited way in this study, then it is helpful to look at previous studies done to identify novice and expert writers.

The transition from oral interactive communication learned as a young child to effective written communication acquired five to ten years later puts demands on a child to develop skills in such areas as punctuation, sentence completion, and spelling. One theory which justifies the classification of novice is that these low-order challenges consume the capacity of such people so that they are unable to deal with other more sophisticated concerns (Bereiter, 1980; Gould, 1980; Flower & Hayes, 1981a). Since novice writers begin at different ages, so do they continue to stay at this stage for various lengths of time.

For the novice writer, ideas are generated on the spot and there is little discrepancy between mental output and visible output. Planning is at a localized level as opposed to being at the global level of the expert writer. (The latter creates more elaborate goal networks and integrates his goals in a more complex planning process than the novice.)

The assumption that the novice makes is that the reader is aware of the thoughts of the writer (Martlew, 1983) and, therefore, needs no added explanations or transitions. This situation makes content generation easier but the chance of successful interaction much more unlikely (Flower & Hayes, 1981b) since the writer would not be anticipating the response of the audience. In the place of a conversational partner, the novice takes his cues for content generation from the topic, the discourse schema, and text already created (Bereiter & Scardamalia, 1987b). Linda Flower (1979) describes the

output as writer-based prose, frequently coming out of the writer's personal experiences and, therefore, often falling into the narrative or descriptive genre.

Since the novice writer is involved with generating appropriate items based on the topic and writing them down without the influence of goal-related planning (Burtis et al, 1983), the content shows little interconnectedness (Bereiter & Scardamalia, 1985). Revisions in the novice's writing would be cosmetic rather than based on a consideration of the plans for and purpose of the essay (Bereiter & Scardamalia, 1986). Encouraging students to spend time in planning before writing would superficially affect the form that the output would take, but not the process (Bereiter & Scardamalia, 1987b).

Expert Writers

> Good writing is not at last a matter solely of
> procedure and method, but of restless minds,
> dismembering ideas, showing their innards to
> others.
> (Corder, 1971, p. 130)

In their study of expertise in a variety of domains, Bereiter & Scardamalia (1986) outline some basic characteristics common to experts:

1. They are able to set goals and consider goals that are not available to novices.

2. Their knowledge is greater than that acquired simply through natural experience.

3. Their knowledge is organized in more utilizable ways in which detailed strands are interconnected.

4. They can solve a given problem by classifying it into one of a limited number of abstract problem types in their field of expertise.

Expert writers, without the burden of having to consciously attend to the mechanics of writing, tend to gather together a more challenging set of constraints based on problem-solving operations (Martlew, 1983; Flower, 1985; Bereiter, Burtis, & Scardamalia, 1988). The focus for this challenge is based on testing, changing, and searching for new goals, dealing with content, and modifying what is known in response to inconsistencies and gaps. As contrasted with an unconstrained situation where the writer simply puts on paper whatever he thinks of on the topic, the constrained situation directs the process of reaching a goal which affects not only the text but the process of getting to the text.

Flower and Hayes (1980b) have theorized that an efficient writer juggles three constraints simultaneously in his quest for a final product. These constraints are:

1. the request for knowledge which is conceptually integrated and organized;

2. linguistic principles for writing and meeting the demands of the language;

3. meeting the rhetorical problem's needs in the structure based on purpose, audience, and discourse type (Matsuhashi, 1981).

Amongst these constraints, it may be noted that process and product go hand-in-hand for "at the heart of effective writing lie the techniques for successful fusion of thought and language to fit the rhetorical context" (Arndt, 1987, p. 257).

Goal-Setting

Flower and Hayes (1981a) describe two kinds of goals that would guide the composition process. Some goals are content goals which form an outline of what the writer wishes to say to his audience. These goals tend to emerge as the composition progresses and become more elaborate as the writing proceeds.

The other goals are process goals over which the expert writer has more conscious control than the novice writer does. As the writer composes, he may return occasionally to these higher-level goals to give him further direction. In some cases, however, the network of goals developed by the skilled writer can be so automatic that he would not necessarily be aware of some levels of their existence. One of the major differences between the expert and the novice is in the quality and kinds of goals set and the ability to utilize the goals in the act of composing (Flower & Hayes, 1981c).

Construction of Purpose

> The contractor does not build a house by wandering
> through a lumberyard picking out lumber, nails,
> bricks and glass at random. Neither does the writer
> wander through the area of his subject picking up
> quotations, statistics, statements and facts without
> reason or purpose. The writer makes a calculated
> search for his raw materials. This search is based
> on the knowledge of his subject and of his
> audience.
>
> (Murray, 1968, p. 5)

Protocol research suggests that skilled writers have a multi-level view of purpose derived from such considerations as the reader, the text, and the situation (Boiarsky, 1980; Hubert, 1986; Blyler, 1989). The purposes that guide the rhetorical aspect of writing are part of an elaborate web (Scardamalia & Paris, 1985; Peacock, 1986; Hayes & Flower, 1987; Flower & Hayes, 1988), a network of conscious parts such as making goals and plans and a network of subconscious parts such as making inferences and responding to situational cues. As the writer composes, developing new ideas and responding to his text, the network is built up, and restructured (Hayes & Flower, 1987). The section of this network that is recalled forms the rhetorical plan that enables the writer to compose effectively. In the process, more elaborate networks are developed, and plans and goals are interconnected into a more coherent pattern. The building of the web and the rhetorical plan are part of the intricate cognitive endeavours characteristic of expert writers.

The purpose of the writing can determine the discourse (Boiarsky, 1980). Boiarsky cites D'Angelo's theory which offers an interrelationship between the purpose, the writer, and the audience. For example, a journal may be the form

taken when the purpose is self-expression. Alternately, if a teacher wishes to provide a rich sense of audience to his students, he may provide activities using the genre of persuasion.

Awareness of an Audience

An expert writer's goals can be significantly affected by his sense of who the audience is (Murray, 1968; Flower & Hayes, 1980a; Berkenkotter, 1981). A good illustration of a question for reader-based prose is not: "What do I know about physics, and in particular, the physics of wind resistance?" but, "What does a model plane builder need to know?" (Flower, 1979, p. 34). Research techniques such as using thinking-aloud protocols can externalize the picture that the expert writer has of his audience and, thus, can help in the observation of the ways by which he relates his audience to the overall rhetorical picture (Berkenkotter, 1981).

Effective Planning

> What basically separates the two groups of
> writers is the ability to reflect on what is
> being written.
> (Pianko, 1979, in Hubert, 1986, p. 72)

In order to satisfy the constraints affecting expert writers while easing cognitive tensions, these writers spend a large part of their composing time in planning (Murray, 1989, 1968). The writing design is such that the writer has a mental picture of the beginning, the end, and how he wishes to get to where he's going (Murray, 1968). If pause time in a verbal protocol represents some form of planning, Matsuhashi and Cooper (1978) have found that writers

spend from 47% to 70% of their overall composition time in planning. (Part of the reason for this range would be the discourse type being utilized at the time (Matsuhashi, 1981)). Studies by Flower and Hayes (1980a) of expert writers who have been observed through thinking-aloud protocols would indicate that planning consumes 80% of the early statements made in the composition process. A recognized expert writer, Donald M. Murray, following a personal thinking-aloud session, has remarked in his response that he was surprised at the percentage of time that he devoted to planning (Murray, 1983). As well, Bereiter and Scardamalia (1987b) have reported a protocol study where 60% of new ideas by skilled writers were classified as rhetorical considerations, as opposed to 70% of the new ideas of unskilled writers being concerned with the topic or the previous statement that had been made. These figures are significant enough to warrant a closer look at the methods used by expert writers, especially in the area of planning.

Expert writers face two basic problems (Flower & Hayes , 1981b) which require careful planning. The first is the knowledge problem: that is, drawing from a large body of knowledge and selecting a manageable amount of appropriate material. The second is the communication problem: fitting the knowledge gathered into a suitable genre to reach the reader. As described previously, there are procedural goals and content-specific goals to help solve these problems. The writer's plan, then, would come from three sources: his knowledge of the topic, his knowledge of writing formats, and his knowledge of strategies in solving planning problems when standard formats are not helpful (Flower & Hayes, 1987). Plans must be put into action to generate ideas, guide the composition process, and produce the text.

The ability to handle a topic in a unique manner and with a unique slant exhibits the creativity of a good writer. Choosing a unique angle takes time

which is often overlooked in the instruction process (Boiarsky, 1982). Boiarsky points out that creativity is accentuated in prewriting as students become aware that they have choices in selecting this unique angle.

Linda Flower (Flower & Hayes, 1980a, in Brooke, 1989) summarizes by saying that expert writers can more ably match their plans to meet the requirements of the situation. She believes that planning is so teachable in its strategies that she has devoted a great deal of time to basic instruction in that area.

Verbal Protocol and Its Analysis

My talking aloud was merely a question of
turning up the volume knob on the muttering I
do under my breath as I write. I do not assume
that what I said reflected all that was taking place.
(Murray, 1983, p. 170)

An examination of activities which result in producing a final text has been illuminated by a resurgence (Auten, 1984) of a technique known as verbal protocol analysis. Here, some indirect observations can be made on the writing process itself (Selfe, 1984; Arndt, 1987). Protocols represent an effort, however limiting, to gather information on the parts of the process that cannot be seen directly. This form of observation was developed by cognitive psychologists to identify processes in problem-solving tasks and to analyze performance on tasks (Ericcson & Simon, 1984, 1986).

By way of definition, the word "protocol" means a "description of the activities, ordered in time, which a subject engages in while performing a task" (Hayes & Flower, 1980, p. 4). Specifically, verbal or thinking-aloud protocol

means that a person would be asked to say aloud whatever he was thinking and whatever occurred to him while he was performing the given task. He would not only be asked to think aloud but, also, to read aloud while he was writing. Basically, all thoughts would be verbalized, no matter how trivial they may be. The resulting data -- the voice track which is registered on an audio recording, the writer's notes, and his text -- would make up the transcript which is the protocol. The "protocol analysis" then would involve taking the data and combining it with the researcher's knowledge of the expectations of the task and of the writer's capabilities in order to create a model of the mental processes underlying the performance of the task (Auten, 1984). The advantage of a protocol would be to provide a "window on thought processes" as they were occurring (Flower & Hayes, 1981c, p. 234), and the resulting transcript would then negate the use of retrospective reports of the writer's composing activities.

Many examples of the use of verbal protocol analysis have been cited in the literature (Hayes & Flower, 1980; Flower & Hayes, 1981c, 1985; Berkenkotter, 1981, 1983; Easton, 1982; Burtis et al, 1983; Cooper & Holzman, 1983; Murray, 1983; Auten, 1984; Warnock, 1984; Bereiter & Scardamalia, 1985, 1987b; Dobrin, 1986; Hayes & Flower, 1986; Hubert, 1986; Steinberg, 1986; Hunter & Pearce, 1987; Afflerbach, 1988; Flower, 1988). Most of the literature has either been a critique of the method or a simple mention that it was used in the data collection of particular studies.

Three of the readings provided a more detailed personal account which focussed on the protocol itself (Easton, 1982; Berkenkotter, 1983; Murray, 1983). In her research, Lois Brown Easton observed the awkward and self-conscious way in which some Grade 7 students planned aloud. She also noted that 80% of the 100 students that she studied chose not to tape their

thoughts. Finally, she commented on the discrepancy between what the students said or felt they could write, which was more powerful and more detailed than the actual texts produced.

Advantages of Protocol Analysis

As stated previously, protocols can reveal the thoughts on the conscious level as they are occurring. Thus, the retrospective generalizations made when relying on the writer's memory can be avoided. Protocol analysis is a means of gaining insights on processes that are otherwise invisible to other methods of recovery (Hubert, 1986). In contrast to introspection, where subjects are required to observe analytically and are directed how or what to observe, thinking-aloud protocol requires the subject to say whatever comes to mind. The verbal protocol, then, would not modify the observation processes as in introspection, but would only slow down the time for task completion (Flower & Hayes, 1985; Ericcson & Simon, 1980, in Martin, 1988).

Disadvantages of Protocol Analysis

> Analyzing a protocol is like following the tracks
> of a porpoise, which occasionally reveals itself by
> breaking the surface of the sea...Between
> surfacing, the mental process, like the porpoise,
> runs deep and silent.
> (Flower & Hayes, 1980c, in Brooke, 1989, p. 417)

This comment was made by two authors whose work has been cited liberally in this review, who have used verbal protocol analysis enthusiastically, and who realize the limitations of this form of data collection.

One concern of many critics of this method of investigation is that a person's level of thinking is multidimensional, with simultaneous thoughts occurring in parallel streams (Steinberg, 1986). Protocols, on the other hand, are based on written and spoken language, both of which are unidimensional or linear articulations. Consequently, the protocol simply describes a layer of thought, namely the task-relevant thoughts at the conscious level (Cooper & Holzman, 1983; Warnock, 1984; Steinberg, 1986; Bereiter & Scardamalia, 1987b; Hunter & Pearce, 1987) and may not be indicative of what is happening in the overall cognitive picture (Dobrin, 1986).

Many cognitive processes are unavailable for the experimenter to evaluate and, therefore, are not visible enough to be observed scientifically. In particular, expert writers have such well-practiced skills that they are assumed and, consequently, not verbalized in the scripts (Cooper & Holzman, 1983). Steinberg (1986) counteracts the premise that protocol analysis is unscientific. He points out that this premise is true only in the classical sense of experimental procedures. Scientists also work with events and facts that can only be observed indirectly. Thus, the "scientific" label is not necessary for the analysis to be insightful.

Many comments have been made in the literature about the circumstances surrounding the actual recording sessions. They have been rated as fictitious, uncomfortable, and phony (Steinberg, 1986; Schoenfeld, 1982, in Auten, 1984; Cooper & Holzman, 1983, respectively). The critics go on to say that the presence of a recorder would affect the results (Steinberg, 1986). As well, the slowing down of the writing process due to the addition of the thinking-aloud format would cause a loss of direction and consequent frustration (Hunter & Pearce, 1987). This would be particularly evident with novice writers as they deal with two different conventions -- oral and written

composition (Hunter & Pearce, 1987). Even Bereiter and Scardamalia (1987b), who have used verbal protocol analysis often in their studies, state that the environment for thinking-aloud protocols would need to be enhanced with children ("What are you thinking about now?").

Bereiter and Scardamalia sum up these somewhat discouraging remarks by saying that:

> Verbal reports, like any other kind of data, may
> be misleading; the issue, however, is not whether
> they are perfect but whether they lead to better
> process descriptions than can be produced
> without such data.
> (Bereiter & Scardamalia , 1987b, p. 43)

Developing Strategies to Write Effectively

Motivating Self-Improvement in Writing

How does one persuade the novice writer to plan? Is it just that the novice is not practiced in the routine of planning and needs to be encouraged to get started? If the novice is convinced to do so, will he exhibit planning strategies which are similar to those of experts?

These questions are centered on the dilemma of whether the requirements of the writing task are too complicated or whether habits have been so ingrained in the novice writer that he is unaware of changes needed to improve his writing. It would be difficult to expect a change to occur if the writer does not see a need for any change (Martlew, 1983). The first step, then, is for the novice writer to be aware of this need (Flavell, 1974, in Martlew, 1983).

One effective method to encourage better quality in writing and, thus, better techniques for writing, is to provide assignments that have a realistic purpose (Flower & Hayes, 1980b). For example, the writer should be given a task where he is compelled to make an impression on his reader. The most effective reader for the student would not be his teacher who has just given a writing assignment but, hopefully, someone who could provide a realistic audience of whom the writer could be aware of throughout the whole composing process. (Martlew, 1983; Flower, 1979). Peter Elbow (1981, in Berkenkotter, 1981) suggests that the writer create a mental picture of the intended reader. If he is in a classroom situation, he should ask the teacher to provide a specific audience setting. Providing the writer with a "movie" of the reader's mind (Elbow, 1981, in Calkins, 1989, p. 137) would motivate him to reach out to his audience in an effort to stimulate the reader's imagination, curiosity, and emotional feelings (Calkins, 1989).

Another method to motivate novice writers in their quest to be more effective writers would be to provide opportunities for them to view their own cognitive processes. At a metacognitive level, these writers would be encouraged to recognize planning activities that were separate from straightforward content planning. A teaching technique used to illustrate such cognitive processes was demonstrated by Bereiter and Scardamalia (1987b) when they had students observe a videotape of an adult writer in the process of planning an essay. At three to four minute intervals, the students were asked to select which strategy the writer was using from a given set which had been discussed earlier with them. By recognizing the steps involved in the adult's conceptual planning strategies, students were motivated to utilize higher cognitive processes in their own planning. If novice writers could be taught to monitor their own actions by verbalizing their thoughts or by being

able to predict or judge outcomes, then awareness of their own development would be stimulating to them as well as their instructor. Once children saw themselves as writers, they would no longer "just write" (Calkins, 1989)

"Writing separates our ideas from ourselves in a way that is easiest for us to examine, explore, and develop them" (Smith, 1982, in Calkins, 1989, p. 20). Calkins (1989) views writing as a dialogue that goes on between the writer and his developing text. Questions arise such as "Where is this leading me?" and "What am I trying to say?". Murray (1982) confirms her picture of the dialogue with his likeness to two people working alongside each other. One speaks, the other listens and evaluates. The resulting forces, creating and criticizing, shape writing into a powerful learning tool.

In her experiences with children as writers, Calkins has endeavoured to instill these dialogue questions into her students through teacher-child conferences. As they grow accustomed to the questioning techniques, she gradually weans them away from teacher guidance through peer conferences and, finally, to internalized dialogue. This method of increasing independence in the planning phase is another strategy for stimulating effective writing.

The choice of a writing topic is another consideration that is important to the quality of writing. Children write best about their own experiences and interests. In The Art of Teaching Writing, Calkins (1989) writes:

> Yet we continue to search for the motivating
> activities, the bag of tricks that will somehow
> cajole students into writing. When I taught
> elementary school, I went so far as to bring a
> hornet's nest to school, and displaying it proudly,
> I told all the children they could write about it.
> Only now, in retrospect, do I realize I was being
> patronizing. I was assuming my students didn't

> have their own trophies to share, their own
> stories to tell. Only now do I realize that what is
> true for me,..., is also true for most people: we
> will care about writing when it is personal and
> interpersonal. Beneath layers of resistance, we
> have a primal need to write. We need to make
> our truths beautiful, and we need to say to
> others, "This is me. This is my story, my life, my
> truth." We need to be heard.   (p. 5)

Graves (1983) notes that having books readily available for both listening to and reading and having students responding to the literature through conversation and writing would stretch their choice of topics. He also encourages the use of field trips and classroom displays of plants and animals (Graves, 1990). Where do topics originate? In Donald Graves' words, they "usually begin with wonder or a question ... an itch that needs scratching" (Graves, 1990, p. 24). Calkins (1989) sees the rehearsal or prewriting stage as the place where a memory, an image, or a potential reader trigger the selection of a topic. The writer then prepares for his writing through possible sketching of ideas or by planning the genre that would be most effective to express his thoughts. Providing as many experiences as possible from which a student can choose a topic that is relevant to him is one of the most effective methods to motivate better writing.

The classroom setting, unfortunately, is artificial and can affect the outcome of the writing activity. The classroom setting often creates pressure for time and students are rushed through the prewriting phase with little time to plan their text (Rodrigues, 1983). Barrs (1983) recommends that research done in a school setting should be combined with a study of students in a different environment.

Instructional Approaches

> Instruction in...writing needs to support students'
> methods for building a sense of ideas rather than
> their production of a perfect product, a neat essay.
>
> (Martin, 1988, p. 13)

Flower and Hayes (1981c), with their perspective of writing as a problem-solving activity, encourage teachers of writing to express the idea to their students that there are many alternative methods of working through the process of composition. Likewise, there are a variety of approaches to instruction in writing techniques.

Bereiter and Scardamalia (Scardamalia, Bereiter, & Fillion, 1981) recognize three approaches to writing instruction in schools based on assumptions made about the writing process. The first assumption is that the writing process is made up of distinct elements which can be taught as identifiable skills. This is the sub-skills approach . The second assumption is that the parts of the writing process are interdependent and, so, cannot be taught as separate elements. This is the holistic approach, which takes the emphasis off direct instruction in the classroom. Finally, the third assumption is based on a combination of the former two in that distinct parts of the writing process can be identified and taught, but these skills are recognized as interrelated. This is the cognitive approach. In contrast to the sub-skills approach, the cognitive approach avoids teaching skills in isolation. The assumption is made from the tone of the writing that the latter approach would be favoured.

The goal from such instruction is to help students cultivate more reflective time to supplement their knowledge-telling approach to writing (Bereiter &

Scardamalia, 1986; Bereiter & Scardamalia, 1987b); that is, to ultimately help them to shift to the knowledge-transforming approach to writing. In their presentation to the AERA in 1984, Bereiter and Scardamalia noted that the old well-practised skills that students use would have to be controlled and subsumed by a more sophisticated cognitive structure.

In the following section, four instructional approaches, relevant to this research, are considered.

Skill reconstruction.

Traditionally, instruction in skills simply allows for practice of already existing skills. Bereiter and Scardamalia (1984) replace that instruction with "skill reconstruction". For skill reconstruction, the challenge would be not to simply add to or modify old skills, but to have those skills placed under a higher knowledge structure.

> Achieving a higher level of expertise in cognitive skills would appear always to involve bringing previously automatic procedures under strategic control. Thus, skill reconstruction runs counter to the normal processes of skills learning, in which procedures become increasingly automatic.
> (Bereiter & Scardamalia, 1984, p. 2)

One approach that has been effective in their studies is the altering of the circumstances surrounding the task in order to motivate students to change their procedures. For example, assigning a task with a realistic purpose such as writing to the parents' group for the school to ask for more playground equipment would encourage goal-setting.

The other effective approach has been to embellish the interaction between the teacher and the students. This technique was successfully demonstrated by Scardamalia, Bereiter & Steinbach (1984) in a planning procedure using the thinking-aloud strategy modelled by the teacher, then by student volunteers, and then by individual students in the class.

A good point made by Bereiter and Scardamalia in the AERA paper (1984) is the importance of understanding novice and expert skills. If expert skills are simply refined versions of novice skills, then skill reconstruction is unimportant and could simply be replaced by repetitious practice of the basic novicelike skills. From their models of the knowledge-telling novice and the knowledge-transforming expert, it would seem reasonable to choose reconstruction of skills over practice of skills. With the effect of instruction, it is possible to justify a range of intermediate placements within these two models (Scardamalia, Bereiter, & Steinbach, 1984), as students begin to move toward knowledge-transformation.

Reflective processes.

Teachers need to assist their students in becoming more reflective writers (Pianko, 1979). In one study, Bereiter and Scardamalia (1987b) focussed on the question of whether elementary school children could be taught to use reflective processes independently. The results showed that, following the treatment, the majority of thinking-aloud statements were still in the area of content generation. However, between the control group and the experimental group, there was a significant difference in the number of statements that were labelled "reflective".

Discourse elements.

Another consideration in instructional design is the direct teaching of genre components. What effect would instruction in discourse elements have on the student's writing? Three experiments have been reviewed. One experiment (Scardamalia & Paris, 1985), which focussed on argument writing, outlined eight discourse segments to the treatment group (Gr. 4 and 6 students). The segments included statement of belief, reason, additional reason, reason on the other side, elaboration, example, repetition, and conclusion. The students, in turn, identified examples of the segments and were provided with a miniplan for writing their text. The results indicated that there was no significant difference in the quality of their essays over the control group. The discourse elements were, in effect, used as cues for content generation. A similar result was found in the data collected by Bereiter, Scardamalia, Anderson & Smart (1980, in Bereiter & Scardamalia, 1984). Instruction in the components of narrative writing (Fitzgerald & Teasley, 1986), on the other hand, enhanced the quality of the students' compositions and had a significant effect on their ability to organize their ideas.

Procedural facilitation.

A final instructional consideration is the use of procedural facilitation over substantive facilitation. Substantive facilitation is most commonly used in the school system. In this process, the teacher would act as a collaborator in the compositional task. With the teacher taking on part of the job, there is a possibility that the student would be excluded from vital learning tasks. However, the advantage to this type of facilitation is that the student would be released to concentrate on specific functions while the teacher took on the rest

of the task requirements. (The student's level of responsibility would gradually be increased as the student felt at ease with learned skills.)

The process approach of the past two decades to writing was designed to emphasize procedural facilitation, rather than substantive facilitation. Procedural facilitation offers external props without adding substantive assistance.

The following examples serve to illustrate the effect of using these two methods of instruction. Firstly, substantive facilitation was used by Knudson (1988) in an experiment with Grades 2 to 6 students to determine its effect on the quality of their writing. The group that received the least substantive facilitation had a superior product. On the other hand, Scardamalia and Bereiter (1987b) used cue cards (procedural facilitation) to induce questioning during planning for compositions. This method of facilitation generated essays with evidence of more mature thinking patterns. Finally, Pamela Paris used procedural facilitation when teaching Grade 6 and Grade10 students how to compose a paragraph incorporating two unrelated sentences (Paris, Scardamalia & Bereiter, 1982, in Bereiter & Scardamalia, 1984). The procedure, similar to expert functions but simplified to incorporate operations and goals that the students could comfortably grasp, had a significant effect on the older students but not on the younger ones.

Procedural facilitation is an effective compromise to the direct exposure of novice writers to expert strategies. The latter method, that of direct teaching of expert strategies to novices, could be both ineffective or, in some cases, harmful, according to Hayes and Flower (1986, 1987). Students need to be gently and positively assisted in their transition to becoming expert writers (Scardamalia & Bereiter, 1985b). The foundation for effective instruction

would be a thorough understanding of the writing process and the needs of the writer (Hayes & Flower, 1987).

Age Considerations

Much thought and research experimentation has been given over to the effect of age on the process of composition. The results of such experimentation are important to teachers of children in the elementary school setting, in particular. The following paragraphs review recent literature available to the researcher in this area.

Piaget's theory of cognitive development.

Of considerable interest to the understanding of the affects of age on writing is the work of Piaget. The third level of cognitive development that he expresses is the concrete operational stage, an egocentric phase where a person's thoughts are tied to concrete data. This is the stage at which many novice writers are working (Lunsford, 1979). Piaget and Vygotsky (1962, in Lunsford, 1979) both express the development of cognition from the simple act of "doing" to the act of doing consciously and, finally, moving up to a stage of formal operations where a person can form logical relationships, can abstract, and can synthesize. This final stage requires a process known as decentering or "getting outside one's own frame of reference" (Odell, 1973, in Lunsford, 1979, p. 39). Most novice writers have difficulty executing tasks where decentering is necessary, particularly where analysis or synthesis are needed. Lunsford (1979) indicates, from this lack of ability, that novice writers

> have not attained that level of cognitive
> development which would allow them to
> form abstractions or conceptions (p. 38).

Donald Graves (1983) defines decentering as a means of backing off a situation in order to be a more effective problem-solver. Along with his acknowledgement of it as a vital force in effective writing, he points out that centering is not, however, a bad or unnecessary force. At certain times, this narrowing of the cognitive processes is important in that it can fulfill the needs of the writer by allowing time for other areas of growth.

Many teachers of writing have based their teaching (Hull & Bartholomae, 1984) on the stages of cognitive growth that Piaget has proposed. Although seldom observed in novice writers, decentering would be seen as a vital link in their awareness of conceptual planning skills.

Expert strategy intervention.

When confronting a given task, both novice and expert writers will utilize the skills applicable to their level of cognitive thinking. Thus, expert writers deal with problem-solving strategies and rhetorical decisions (Flower & Hayes, 1980 in Scardamalia & Bereiter, 1982). Elementary students, on the contrary, who mainly fit the category of novice writers, work with a much more simplistic plan of verbalizing whatever comes to mind in an easily directed flow of having one idea lead to the next (Flower & Hayes, 1981; Scardamalia & Bereiter, 1982).

As an illustration of these remarks, Bereiter and Scardamalia (1984) undertook a study to measure the effects of demonstrating five expert strategies for novice writers. Students at the Grade 4 level were not affected by the intervention, nor could they identify the strategies. Grade 6 students could identify the strategies, but were scarcely able to utilize them as more than aids for generating content. Studies by Flower (1979, in Bereiter &

Scardamalia, 1984) and Hayes (1981, in Bereiter & Scardamalia, 1984), on the other hand, showed that direct teaching of expert strategies was effective with university students. In working with students from Grades 4 to 10, Scardamalia and Bereiter noted that developmental changes were all within the confines of their knowledge-telling model (Scardamalia & Bereiter, 1984; Scardamalia & Paris, 1985).

With these studies as a background, it would seem most feasible in a limited time frame to focus on one aspect of the writing process within the structure of a single writing genre in order to attempt to strengthen the impact of expert strategy intervention.

The prewriting period.

From the previous studies mentioned, one can conclude that the prewriting stage assumed to be involved with planning, would be affected by the age of the writer. Burtis, Bereiter, Scardamalia, and Tetroe (1983) did a study with students in Grades 4, 6, and 8 to determine if content generation dominated the plans of young writers only as a product of habit. They released them from the think-say routine by requesting that they do a segment of planning before writing. The results showed a difference between Grade 4 students and Grade 8 students in the amount of planning, but a relatively equal proportion of conceptual planning (10%) by both groups. The notes of the Grade 4 students were closely linked to the text. For example, one Grade 4 student wrote:

> NOTES
> Getting basic subjects
> Think about what you want to major in
> Keep information remembered so you get smarter

Think of all the subjects to go together so you get a good
education
Think how a reader would react to the story (kind of a story)
Remember how to figure out your problems

TEXT

I think students should be able to pick their own subjects if
they had some guidance. One thing to start off with is for you to
take your basic subjects like math, language, gym, music, and
maybe history. In school start thinking what you want to be so
you can take those subjects for a start. If you did want to be
say a teacher (just math) keep remembering the things you've
learned so you will be a better teacher (you will be smarter).
So you do become a good teacher even if you just want to
teach math you would still need other subjects so you would
have to take ones that go together. To this story a reader's
view may think it is kind of silly but maybe not. If you do run
into problems you must learn how to cope with them and work
them out.

(Bereiter & Scardamalia, 1987b, p. 205)

Thinking-aloud protocols of adults in a replication study showed evidence of

much more organization (33% of idea units were conceptual planning

statements) during the prewriting period with statement openers like "I'll start

with the idea that...then I'll talk about...and I'll finish with..." (Bereiter &

Scardamalia, 1987b, p. 209).

Age and ability correlation.

What is a "typical" age timeline for the development of planning

activities? The authors of the previous experimental observations (Burtis et al,

1983) note that in the beginning two years of writing, the child writes while

saying the words aloud. By the fourth year (age 10) the words are no longer vocalized and subvocal planning takes its place. This type of planning is closely linked with the actual text. It involves thinking of a statement and then writing it, the think-say method mentioned earlier. After a topic has been assigned, a child of this age generally would begin writing at once with the exception of the time taken to think of a first sentence. By adolescence, the initial planning begins to be indirectly related to text production. By later adolescence, the prewriting plan would show signs of conceptual planning, including strategies for problem-solving and organization of the text. The ultimate level for adults, finally, is to have the plan involving goals and strategies manipulating the content but not be part of it.

This timeline is the ideal representation of the transition from novice to expert writer. Four of the most quoted authors in this literature review (Flower, 1979; Flower & Hayes, 1981, in Scardamalia & Paris, 1985; Scardamalia & Paris, 1985) do not hesitate to point out the reality of this transition. They do not make a "presumption of a perfect correlation between age and ability" (Scardamalia & Paris, 1985, p. 4). Indeed, a teacher of primary-aged children could see the struggle of a student to refine his psycho-motor skills in order to represent language on his paper while a student of the same age could sit alongside producing text with relative ease. Likewise, on the other end of the spectrum, there are novice and expert adult writers with verbal protocols that are as widespread in nature as the protocols of different-aged students.

Summary

The purpose of this study has been to examine the effect of exposing novice writers to expert planning strategies. As a background for the study, the literature review has focussed on the attributes of novice and expert writers and on models of their different thought processes while composing.

The method of analyzing the verbal protocols taken during the time that writers are planning and composing their written work has presented researchers with insights into the thought processes of individuals and, thus, into the effects of instruction on their subjects.

The literature on instructional approaches to writing based on novice and expert comparisons has emphasized skill reconstruction as a way to overcome the learned habits of the novice and to promote the more reflective thought processes evident in experts. Through the use of procedural facilitation, the novice can be encouraged to adopt some of the skills characteristic of the expert. The literature has pointed out that the age and cognitive maturity of the individual have an effect on the type of writing strategy that he uses and that he is able to assimilate.

The interest in the topic of planning instruction for novices has developed from the author's ongoing involvement in teaching elementary-aged children to be the most effective writers possible. Through the literature, insights can be gained into the cognitive strategies used by these children as novice writers. Also, the literature has provided a basis of knowledge on the cognitive activities of expert writers and the approaches that have been used to reduce the gap between novice and expert thinking strategies in writing composition.

CHAPTER THREE
METHOD

Introduction

The purpose of this study was to determine the effect of planning instruction on novice writers. The study focussed on the following research questions:

1. With planning instruction, will the subjects spend a larger portion of their total writing time in the planning phase?

2. With planning instruction, will there be an increase in the amount of rhetorical top-level planning as opposed to linguistic bottom-level planning?

3. With planning instruction, will there be an ultimate improvement in the quality of the first written draft?

4. With planning instruction, will novice writers have greater confidence and motivation to write?

The research procedures used and the consequent collection of data were designed to address these questions.

Research Design

Following the written consent of parents and students and prior to the start of the treatment, Grades 5 and 6 students who took part in the study were divided into their respective grade levels. In the process of stratified random sampling, each grade level was divided into two groups simply by drawing names amongst the Grade 5 students and then by doing the same with the Grade 6 students. As a result, there were two randomly selected groups, each containing an equivalent number of Grade 5 and Grade 6 students. One group was designated as the experimental treatment group and the other became the control group.

Description of Subjects

Twenty Grade 5 and 6 students participated in this study. There were 12 boys and 8 girls, all from a single classroom. Eight of the students, 5 boys and 3 girls, were in Grade 6. The other twelve students, consisting of 7 boys and 5 girls, were in Grade 5. Although the children were in two separate grades, they were treated as one group since they were accustomed to working as a total group on composition assignments with their classroom teacher.

The school from which the subjects were drawn is in a middle to low socioeconomic area of the Lower Mainland of British Columbia. Homes in the area range from middle class single family dwellings to cooperative, low-rent apartments. The school was selected because of the relative ease of accessibility for the author who is a full-time teacher at the school. The students were selected because they were at the age level that the author wished to study, they were helping buddies to the author's own class, and they

had a teacher who was very willing to cooperate with the rescheduling of classes so that this study could be completed.

All students and parents gave their written consent for the study to take place. All the students selected were able to continue and complete the study and assessment within a 3-month time frame. The class from which the subjects were drawn had an enrollment of 23 students but three students in the class did not participate because of their timetabling in the school's learning resource room.

Experimental Treatment

The experimental group of ten students consisted of 8 boys and 2 girls. They were exposed to instruction in planning skills for writing for three 40-minute periods a week for a period of four weeks, giving a total instruction time of 8 hours.

The main consideration in the method of instruction was reconstruction. From the work of Bereiter and Scardamalia (1984), it was noted that prewriting (planning) skills needed to be presented in such a way that the student felt compelled to change his old sentence-building habits to accommodate a "top-down" strategic plan prior to writing the first draft. Bereiter and Scardamalia's suggestion of an enriched instructional interaction between teacher and student, where the teacher sought to influence the student by modelling planning skills verbally and having the student imitate him, was a focal point of the instructional task.

The genre chosen for the experimental treatment was opinion writing. From her classroom experience in working with elementary-aged students and from case studies cited in the works of Graves (1983, 1990) and Calkins (1989), the author was aware of the restrictive nature of making such a

decision for the students. However, the choice was based on a modification of two studies done by Bereiter and Scardamalia (1987b) where they had used opinion writing with their subjects.

Their first study analyzed the verbal protocols of control and experimental groups from Grades 4, 6, and 8 where the experimental group received instruction in planning. For this study, the students were assigned the essay topic: "Should children be able to choose the subjects they study in school?" Bereiter and Scardamalia defended their decision to use an opinion-centered approach from the success of previous research where the use of this question had allowed a wide range of thinking processes to take place.

Their second study involved an experimental design in which Grade 6 students were given 20 lessons on opinion writing. These lessons incorporated procedural facilitation (Scardamalia & Bereiter, 1985b), direct instruction, and modelling (Bird, 1980). Once again, verbal protocol analysis was part of the assessment process.

The author adapted the analysis components of the first study and the lesson components of the second study to fit her own research.

Another purpose for using opinion writing was to create a setting where students could get involved in writing about issues concerning their school environment. Thus, a situation would be created that would prompt change and, consequently, enhance skill reconstruction. With opinion writing, there would be an incentive to focus on visualizing the reader and setting goals, two of the areas that expert writers consider in their rhetorical-based planning. In order to promote the use of opinion writing, the author had the students list a variety of topic ideas centered on changes they would like to make around the school. Four of these topics were set aside as essay choices for the data collection. Other ideas were used in the treatment lessons. Murray (1968)

notes that "form is not an empty jug into which the writer pours meaning; form grows out of meaning" (p. 2). By using school issues directly concerning the research subjects, there would be an incentive for the students to adopt a persuasive form of writing when addressing these concerns.

The instructor incorporated some of the strategies presented by Linda Flower in her book Problem-Solving Strategies for Writing, 2nd edition. Flower (Flower & Hayes, 1980b, in Brooke, 1989) believes that planning is so teachable in its strategies that she has devoted a great deal of time to basic instruction in that area. The three areas of focus that the author incorporated from Flower's book were titled "Plan", "Play", and "Push". The outline of instruction was based on the following topics:

PLAN

Lesson 1 Explore the rhetorical problem
-Explanation of problem solving as goal-directed thinking
Writing is a powerful method of thinking through a problem. What is the rhetorical problem in writing? (Explore this question by creating an image of a reader, a writer, and a purpose.)

Define the purpose, audience, and writer
-Purpose: set a goal, ask what you want to accomplish and what effect you want to have with the paper, visualize the finished product.
-Reader: who is it, and what should he feel after reading the paper
-Writer: how do you want to be portrayed; for example, enthusiastic and certain, or a little unsure. Think of talking face to face with the reader.

Lessons 2-4
Sketch a plan

```
-           *--------------------------------------> *
            ↑               ↑               ↑
        Problem      Problem-solving      Goal
```
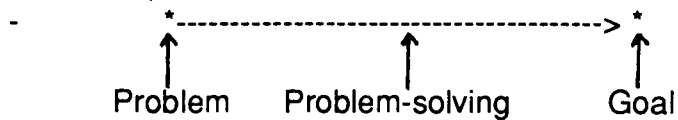
"Goals state where you want to end up. Plans say how you are
going to get there." (Flower, 1985, p. 69)
-Combine plans of what you want to say (information on topic)
 with plans of what you want to do (how to use that information).

Reveal plan to the audience (reader)
-Consider who the reader is. (In this case, the students were
 using opinion-style writing in examples and assignments, so we
 stated our problem, reader, writer, and purpose each time. The
 reader was usually the administrator or a teacher in the school
 because the students were concentrating on issues in the
 school.) Consider his knowledge, attitude, and needs.
-Construct a problem/purpose statement for opening of paper.

PLAY

Lesson 5 Brainstorm
-Consider the word "play" and its meaning. Creative thinking is a
 form of mental play, a mind playing.
-Rules: -don't censor, just write down any ideas
         -don't perfect grammar or spelling, etc.
         -keep your eye on the question
          ("Brainstorming is a goal-directed search
          for ideas.")

Lesson 6 Talk to reader
-Visualize your reader as a live audience, visualize talking with
 him or her face-to-face. Take both sides, imagining the reader's
 responses

Rest and incubate ideas
-Keep the assignment's problem in mind. Let it be in your
 thoughts while you do other things like sleep, walk to school,
 work on other activities.

PUSH

Lesson 7 Nutshell ideas and teach them
-Take all ideas from brainstorming, combine them and manipulate them around until you have a few main points. Take those condensed ideas and present them to an imagined reader so that she or he will understand the overall meaning that you wish to convey. (The students in this case taught their nutshelled ideas to a buddy and then some presented to the whole group.)

Lesson 8 Build an issue tree *(see Flower, 1985, p. 118)*
-Main point: Create an outline from generated ideas.
-Draw a deciduous tree as it appears without leaves. Turn it upsidedown. An issue tree is similar in appearance.
-Take brainstormed ideas, identify their key words,and sort the ideas into a hierarchically organized tree.
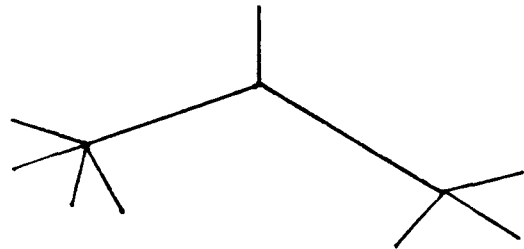
Lesson 9 The Rogerian-style argument
-Since the genre for instruction in planning was opinion writing, this strategy of Carl Rogers (Flower, 1985) was presented to the group as a unique method of developing an argument.
-The basic premise of this strategy is to present the reader's case first in order to demonstrate a respect for his or her side of the argument. Then, the reader hopefully will be more attentive when the writer's position is presented next.

GENERAL REVIEW AND CONSOLIDATION OF IDEAS

Lesson 10 Extra practice with Plan, Play, and Push
-Review of previous strategies:
-plan: explore the rhetorical problem and make a plan
-play: generate new ideas
-push: organize ideas

Lesson 11 Procedural facilitation through the use of planning cues
(Scardamalia & Bereiter, 1985b)
-Students were given a topic and asked to start thinking of plans for the assignment. When they got stuck for ideas, they picked up a planning cue (Scardamalia & Bereiter, 1987b, p. 305) such as "A goal I think I could write to..." to help them continue on. There were also planning cues for brainstorming such as "My own feelings about this are..." or "A better argument would be...".

Lesson 12 Consolidation of skills
-A visual picture by means of charting was made of the skills and strategies learned in the first 8 lessons. All strategies were reviewed, and planning before the initial draft stage was encouraged.

The experimental group received the lesson format enthusiastically. The students were made aware in the initial lesson that they would be learning how to plan their writing so that they would, hopefully, become better writers. They were introduced to the three section words: plan, play, and push. However, they were given no further elaboration as to what would be involved in each of the twelve lessons.

For most of the lessons, they began with a quick warm-up writing exercise. (As an example, given a picture, they were to work with a buddy to write down as many "ing" words as they could think of representing what was happening in the picture.) After the warm-up, they had a review of the material presented in the sessions so far, followed by the lesson for the day, and, finally, an assignment. For the most part, they chose the material to write about and there was some flexibility during the lessons to accommodate their individual learning styles.

The assignments throughout the instructional time were based on opinion essays. This particular genre was chosen because of the interest that

the students would have in this style of writing in that they were able to express their opinions on current issues around the school.

The twelve lessons outlined above are presented in more detail in Appendix One.

Control Treatment

The control group was given assignments simultaneously for twelve 40-minute periods in the general area of creative writing and as part of their regular curriculum. The instruction and supervision of the control group was done by the classroom teacher. This group met in a separate room from the experimental group and was not able to overhear any of the latter's instruction. When asked by their teacher about their knowledge of what the experimental group was doing, they replied that the latter group was working on ways to change the school.

During the twelve periods, the classroom teacher engaged the control group in instruction on traditional writing skills, emphasizing topic sentence, unity in the body, closing sentence and mechanics. A large amount of time was spent on adjectives, adverbs, and descriptive phrases. The topics were mainly grouped around special people, animals, and places. These topics were presented by way of conventional lessons, many examples, and oral sharing.

Learning Environments

Teachers for both the experimental group and control group were full-time teachers with many years of elementary school instruction in their experience. Both teachers had been on the staff of the sample school for the past four years. It was four years ago, also, that a focus was placed on the

writing process at this school. With this focus came some extra practice and stimulation for students to work more on narrative, descriptive, and expository writing than on opinion writing. In the past two years, the school had taken on other curricular priorities but had kept writing composition as a secondary focus. Thus, the students involved in this research had been exposed to the process approach to writing, a variety of genres, and the enthusiasm of two instructors who had been part of a staff who emphasized writing with their students.

All twelve lessons were conducted within class time. With the exception of the final lesson in the experimental treatment, the students in the experimental group were taught in their own classroom environment. The ten students of the control group changed rooms each time depending on availability of space. This situation was slightly awkward for the latter group and for their teacher but they maintained a flexible attitude.

Timeline for the Study

Following is a timeline for the treatment lessons and collection of data:

1990

March   Selection of control and experimental groups.
            Permission forms administered to parents and students to
                allow for the latter's involvement in the study.
April 15   Start of 12 lessons for treatment group
May 17   Completion of the 12 lessons.
May 18   Administration of two questionnaires to all
                subjects. (Information on questionnaires is
                in the next section.)

Instruction to all subjects on thinking-aloud procedures.

May 22 Second lesson to all subjects on thinking-aloud procedures.

May 23 Start of individual taping sessions for all subjects.

(Information on taping procedures is in the next section.)

June 20 Completion of individual taping sessions.

June 21 In-class writing assignment given to all subjects. (Information on this assignment is in the next section.)

Description of Measures Employed

Questionnaires

Following the instruction period, the students involved in the study were give two questionnaires entitled: How I Feel About Writing and Children and Adolescents' Conception of Writing (see Appendices Two and Three). These questionnaires were used to get a reading on the levels of self-confidence, interest, and motivation that the students had in writing.

Verbal Protocols

The hypotheses to be tested involved a process as well as the written product. A completed piece of writing may very well have indicated an improvement in the student's writing after prewriting instruction took place. However, the point also under consideration involved more than an examination of the end product. Because part of the focus of this research was on the length of time spent in planning as a result of exposure to expert

prewriting strategies, testing the hypotheses was partially based on verbal protocol analysis.

Protocol analysis would allow the researcher to gather a minutely detailed record of the writer's thoughts while he was working on an assigned writing task. The thinking-aloud protocol would allow the judges not only to analyze the length of time spent by the writer in prewriting, but also would permit a detailed analysis of the type of planning that had occurred.

Preparation for thinking-aloud.

Following the experimental treatment, the entire class was subjected to two 40-minute periods where the process of using thinking-aloud procedures was modelled first by the instructor, then by the instructor and a student, and finally by students working with partners of their choosing. Within the two periods, the partnered students were first given a narrative essay to write using thinking-aloud procedures, and then they were given an opinion essay to write in similar fashion.

The individual writing task.

Appointments were set up with each of the 20 students involved to be individually audiotaped by the author. Each student was given the choice of 5 opinion essay topics. With the exception of the fifth topic which had been used extensively in the research of Bereiter and Scardamalia (1987b), the topics were initiated by the students at an earlier time. (Topic 4 was adjusted by the researcher from the idea that "Students should be allowed to teach so the teachers would have a break". The first three topics were taken verbatim from the students' suggestions.)

1. Room 101 should have new chalkboards.

2. There should be food at sockhops.

3. We should be able to sit on mats at assemblies.

4. Students should be teachers for two 40-minute periods a week.

5. Students should be able to choose the subjects they study in school.

Although expert writers could switch between production and planning since one interrelates with the other (Burtis et al, 1983), a large part of the planning would be done at the prewriting level. Consequently, when the students selected their topic, they were given the instructions to plan for as long as possible before beginning the first draft of their essay. (The verbatim instructions are found in Appendix Four.) The data collected were a tape of their verbalized thoughts as well as pages of planning notes and the initial drafts of essays.

In order to provide procedural facilitation as they wrote, the students in the experimental group, with the exception of one student, also had a chart in front of them with a very brief synopsis of the Plan, Play, Push strategies that had been presented in their lessons. (A replica of the chart is in Appendix Five.) The order of students interviewed was chosen randomly or, in some cases, was determined by their ability in the subject area that they would be missing in their regular classroom. Four students were taped before 9:00 a.m. on specified days and four students were taped on Sunday, June 17. Otherwise, the students were taped in school hours between 9:00 a.m. and 3:00 p.m.

Some concerns arose in the selection of the taping area. This area was changed frequently because of limited meeting space within the school. On some occasions, the noise level outside the room was not ideal. On all occasions, the author appeared to be more aware of this possible distraction than the student being taped.

Also, the taping sessions stretched on for 4 weeks due to the author's own class load and the many extra curricular activities (for example, field trips, Sports Days, practices for track meets) set up at the end of the school year. Five students were taped in the last two weeks of the school year, a time when many students are excited by the coming summer holidays.

Group Writing Assignment

In order to test the transfer of learning to another genre, the class was given an assignment to write a factual essay on one of the following topics:

"An Interesting Job or Occupation"

"An Interesting Animal"

They were told not to think aloud on this assignment but to plan for as long as they could before writing the first draft of the essay. They were to submit their evidence of planning that they had done on paper along with their first draft.

The assignment was received with reservation due to the fact that it was the last period of the day, the room was very hot, and the roof was being tarred, thus giving off a strong smell. Unfortunately, the effort on the assignment was minimal and the students lacked enthusiasm.

Dependent Measures

Quantitative and qualitative assessments were made of the data. The dependent variables for each subject included planning time, total length of thinking-aloud protocol, number of protocol statements devoted to each of seven categories of planning and writing statements, rated quality of the first draft (4-item scale), and total score on the How I Feel About Writing questionnaire (8-item scale).

The assessments of the variables were made by a marker or group of markers, depending on the type of data collected. These markers were not connected to the project or the sample school and were all experienced teachers. The markers were unaware of which subjects were in the control or experimental groups.

Measures Taken for Hypothesis One

Hypothesis One states that, with exposure to planning methods of expert writers, novice writers will spend more time in the planning stage of the writing process.

Two items of data were collected for each subject in order to test this hypothesis. The first item was the total number of minutes spent in planning before starting the initial draft and during the draft. The second item was the number of minutes spent in the total thinking-aloud protocol which included planning plus writing the first draft. The audio tapes were used to determine these variables. The clocked method was chosen over measuring the number of phrases or sentences presented by the student. In this case, the marker was an experienced teacher who had used timing procedures in her own classroom on numerous occasions. Here, she used a stopwatch to measure

the planning and drafting segments up to a 1-second accuracy. She identified these segments by simultaneously listening to the tape and watching the written planning notes and draft produced by each student.

Measures Taken for Hypothesis Two

Hypothesis Two states that, with exposure to planning methods used by experts, the novice will increase the percentage of planning time in the area of rhetorical choices as opposed to linguistic choices.

The linguistic planning statements encompass content generation; that is, planned material arising from brainstorming that will eventually become part of the text. The rhetorical planning statements encompass conceptual planning whose "outcome is not text content or language; rather, it is knowledge that guides or interprets the choice of content and language" (Bereiter & Scardamalia, 1987b, p. 203).

The measures taken to test this hypothesis were originally used by Bereiter and Scardamalia (1987b). Their approach was to classify segments of protocol. Following their design, each transcript was partitioned into idea units. The units were then classified into one of seven possible categories as follows:

1. Dictate and reread
2. Language considerations
3. Content generation
4. Organization
5. Considering goals
6. Reader awareness
7. Overcoming difficulties

The first category was simply the recitation of text upon writing or reading it over verbatim. The second category included statements that would involve concerns in spelling, vocabulary, grammar, and so on.

The third category included statements that would provide the content for the text. This content generation would be the part of planning that would be considered to be linguistic. Finally, the last four categories -- organization of the text, goal-setting, consideration of the reader, and overcoming expository problems -- would encompass the part of conceptual planning that would be considered to be rhetorical.

The partitioning of the protocol was done by a marker trained to identify idea units as sentences or phrases containing a single idea. The same marker partitioned each of the 20 protocols and, so, provided consistency in her judgement of the makeup of single idea units. Once again, she listened to the tape while reading the notes and draft written by each student. She used a chart listing the seven categories as column headings and kept a tally of each idea unit under the appropriate classification. These data were then used to determine the extent of rhetorical and linguistic planning carried out by the student.

Measures Taken for Hypothesis Three

Hypothesis Three states that, with exposure to planning methods of expert writers, the quality of the written product of novice writers will improve.

The limitations on the testing of this hypothesis were that only the first draft of the written product was considered. In order to rate the quality of these drafts, the author referred to a study done by Bereiter and Scardamalia (1987b) where they had used 13 rating dimensions for opinion essays. These

dimensions were used as a framework for devising a marking scale for the students' essays. The author in consultation with the three markers produced a 4-item rating system which included the following items:

1. Development of essay -- flow and organization

2. Point of view -- Does the student take a point of view, state it, and convince the reader of it?

3. Elaboration -- how effectively does the student elaborate on his argument?

4. Resolution -- does the student attempt to answer opposing arguments and resolve them?

Each item was assigned a difference score between 0 and 3, positive and negative, thus resulting in a 7-point scale. Each student's essay was rated on this 7-point scale for each of the four items.

Due to the subjective nature of this measurement, three markers were used to rate the essays. These markers, all of whom teach at separate schools not connected with the sample school, collaboratively scored the essays. They were unaware of the gender of the students and, also, which group the students were in. The essays simply had a number in the top corner to identify them and were arranged in random order.

All of the ratings were done in one session. One marker read an essay aloud while the others listened and read silently. Then, the markers began

with the first item, development of the essay, and decided together on an appropriate score after discussion and debate. They continued in this manner with each item. After they had read and rated half of the essays, the markers changed some of the scores that they had made on the earlier essays in order to be as consistent as possible in their scoring expectations. At the completion of the scoring process for all the essays, they went through the essays once again, reread them, and rechecked their scores to ensure consistency in their ratings.

The four scores for each essay, along with an overall total score, were recorded under the number of the essay on a data sheet.

Measures Taken for Hypothesis Four

Hypothesis Four states that, following exposure to planning methods of expert writers, the novice writer will have greater confidence and motivation to write.

The questionnaire How I Feel About Writing was developed by and used with the permission of Marjorie C. Moore. It had 8 items to which the subject could respond on a scale of 1 to 6, from "happy to write" to "sad to write" respectively. An example of the items presented in the questionnaire is "I receive a gift and want to write a thank-you note. I feel...". Each student's questionnaire ratings were totalled, with a smaller score corresponding to a happier attitude about writing.

The second questionnaire called Children and Adolescents' Conception of Writing (Composition) was developed by and used with the permission of Dr. Bernice Wong. Only part of the children's portion was used; namely, the first six questions. Four of the questions allowed a "Yes", "No", and "No response" decision by the student, plus a comment on each question. One

question, "How good a writer would you say you are?", asked for a 5-point rating from "excellent" to "very below" as well as a comment. The other five questions asked for comments only. The responses from this questionnaire were used in the discussion in Chapter Five.

Data Analysis

The data collected were used in the following analyses:

1. Hypothesis One:

The ratio of planning time compared to overall writing time was calculated as a percentage for each student, and the mean of these percentages was found for the control group and the experimental group. A t-test was used to determine if there was a significant difference between the two means.

2. Hypothesis Two

Verbal protocol analysis was done on each student's transcript after breaking it into idea units. The number of idea units in each of five categories -- content generation, organization, goal-setting, audience, and expository considerations -- was totalled for each subject. Then, the mean number of idea units for the control group and the experimental group was calculated for each of these five categories.

The number of idea units concerned with content generation was recognized as the number of linguistic planning statements made by the student. In similar fashion, the sum of the number of idea units concerned with organization, goal-setting, audience, and expository

considerations was recognized as the number of rhetorical planning statements made by the student. A chi-square test and phi-coefficient calculation determined whether there was a relationship and, if so, the strength of the relationship between the number of rhetorical statements made and the treatment given.

The mean number of rhetorical planning statements was calculated for the control and the experimental groups. A t-test was used to determine whether there was a significant difference between the two groups.

3. Hypothesis Three

For this hypothesis, the t-test was used to decide if there was a significant difference between the control group and the experimental group's mean overall scores on the quality of their essays. The t-test was also used to check for significant differences between the two groups on each of the marked categories making up the overall score. These categories were development, point of view, elaboration, and resolution.

In order to determine if there was a correlation between the quantity of idea units and the quality of the essays for the control group and the experimental group, the Pearson correlation coefficient was calculated for each group. To determine if the correlation coefficients were significantly different from each other, Fisher's transformation to Z was used and the standard score was calculated.

4. Hypothesis Four

The scores for all eight items on the questionnaire were totalled for each student and a mean value was calculated for the control group and the experimental group. A t-test determined if the difference between the values was significant. Also, the t-test was used to determine if there was a significant difference between the mean score for the control group and the mean score for the experimental group on three separate items of the questionnaire.

Summary

The researcher selected a Grade 5/6 class, dividing its students randomly to test the effects of planning instruction on the resultant compositions of novice writers. The experimental treatment group received instruction in planning strategies. The students were then individually asked to write an opinion essay on one of five topics. They were asked to plan for as long as they could before writing their initial draft and, also, to think aloud during the planning and writing process. The study compared the thinking strategies and writing of the experimental and control groups.

CHAPTER FOUR
RESULTS

This chapter covers the findings and consequent data analyses done to support the hypotheses presented in the study. In general, measures were taken to test the effect of planning instruction on novice writers. The assumption was made that the Grade 5 & 6 students in the control and experimental groups were not expert writers. By collecting data from both groups (with sample size n = 10 for each group), analyses of the data to determine significant differences could be made.

The results are presented for each of the four research questions posed in Chapter Three.

Question 1. With planning instruction, will the subjects spend a larger portion of time in the planning phase?

Hypothesis one states that, with exposure to planning methods of expert writers, novice writers will spend more time in the planning stage of the writing process.

The assumption on this directional hypothesis was made that the prewriting stage would be totally involved with planning of various types. The total time taken for prewriting plus any intervals where planning statements were made during the time that the first draft was being written were combined to give an overall clocked figure (referred to as "planning time"). As well, the overall time in which planning and first-draft writing took place was recorded (referred to as "total writing time"). Then, a percentage of planning time/total writing time was calculated for each student.

The raw data are presented in Appendix Six.

TABLE 1. Means for Planning Times and Total Writing Times of Students
in the Control Group and the Experimental Group

Mean times	Control Group	Experimental Group
Planning time (minutes)	5.17	9.60
Total writing time (minutes)	16.08	19.83

The mean of ratios of planning time/total writing time for the control group was 28.68% as compared to the experimental group with 47.76% with standard deviations of 12.23 and 10.78 respectively. A one-tailed t-test verified that there was a significant difference between the two groups (t= 3.70, p < .001) and the hypothesis was supported by the data.

Question 2. With planning instruction, will there be an increase in the amount of rhetorical top-level planning as opposed to linguistic bottom-level planning?

Hypothesis two states that, with exposure to planning methods used by experts, novice writers will increase the percentage of their planning time in the area of rhetorical choices as opposed to linguistic choices.

Of the segment classifications listed in Chapter Three, five of these categories were used in the analysis of rhetorical versus linguistic planning choices. These five categories were:

1. content generation
2. organization of text
3. goal-setting
4. consideration of reader
5. expository consideration (including meaning and purpose)

The first category -- content generation -- was the basis for the tally of linguistic planning statements. The four remaining categories were combined to give the tally on rhetorical planning statements. The mean number of planning statements for each classification is shown in Table 2.

TABLE 2. Mean Number of Planning Statements Used by Students in the Control Group and the Experimental Group in Five Categories

Type of Planning Statement	Control Group	Experimental Group
Content Generation (linguistic planning)	8.5	12.1
Organization of Text (rhetorical planning)	0.8	0.3
Goal-Setting (rhetorical planning)	0.4	1.6
Consideration of Reader (rhetorical planning)	0.1	1.9
Expository Considerations (rhetorical planning)	0.0	0.1

The total number of planning statements for each group are reported in the following table.

TABLE 3. Total Number of Linguistic and Rhetorical Planning Statements Used by Students in the Control Group and the Experimental Group

Type of Planning Statements	Control Group	Experimental Group
Linguistic	85	121
Rhetorical	13	39

Nonparametric analysis using the chi-square test was used to compare the two independent samples; that is, linguistic versus rhetorical planning statements, and control versus experimental treatment. The results showed that there was a relationship between the number of rhetorical planning statements made and the type of treatment given to the groups. The relationship, however, was shown, through the phi-coefficient ($\phi = 0.134$) to be a weak positive one.

Parametric analysis of the means for the total number of rhetorical statements made by the control group ($\overline{x} = 1.3$) and experimental group ($\overline{x} = 3.9$) showed a significant difference between the two groups ($t = 2.05$, $p < 0.05$). This difference was mainly attributed to the two rhetorical categories of goal-setting and audience consideration, with t values of 24.95 and 2.52 ($p < 0.05$) respectively.

<u>Question 3</u>. With planning instruction, will there be an improvement in the quality of the first written draft?

Hypothesis three states that, with exposure to planning methods of expert writers, the quality of the written product of novice writers will improve.

Each of the 20 opinion essays written were scored collaboratively by three markers using four categories:

1. development of essay -- flow and organization

2. point of view -- does the student take a point of view, state it, and convince the reader of it?

3. elaboration -- how effectively does the student elaborate on his argument?

4. resolution -- does the student attempt to answer opposing arguments and resolve them?

The mean scores for the control and experimental groups in each category are listed in Table 4. Appendix Seven lists the individual scores.

TABLE 4. Means for Scores Received by the Control Group and the Experimental Group on Opinion Essays Using a Seven-Point Scale (-3 to +3)

Category Rated	Control Group	Experimental Group
Development of Essay	0.9	1.2
Point of View	1.2	1.8
Elaboration	0.8	0.9
Resolution	-0.6	0.4

The total mean scores were tabulated to have a grand mean of 2.3 for the control group and 4.3 for the experimental group. The overall rating, then, for the essays showed no significant difference ($t = 0.907$, $p > 0.05$) between the groups and the hypothesis was not supported by the data.

Consideration of each category separately also showed no significant difference ($t = 0.534$, $t = 1.01$, $t = 0.136$, $t = 0.936$, respectively; $p > 0.05$ in each case) between the control and experimental groups.

The author was also interested in knowing if there was a correlation between the quality of the students' essays and the number of idea units produced in their drafts (the quantity factor) and if, indeed, there was a significant difference between the groups. The Pearson correlation coefficient values for the control group ($r = 0.375$) and the experimental group ($r = 0.053$), when converted to Fisher Z coefficients ($Z = 0.394$ and $Z = 0.053$, respectively), showed a difference of up to 0.638 SE. This value was much greater than the accepted .05 level and, therefore, could not support a significant difference between the two groups.

Question 4. With planning instruction, will there be an increased motivation and confidence to write?

Hypothesis Four states that, following exposure to planning methods of expert writers, the novice writer will have greater confidence and motivation to write.

The mean scores for the control group and the experimental group on the 8-item questionnaire How I Feel About Writing were 27.0 and 23.2 respectively. (It should be noted that the lower score corresponded to a better

attitude toward writing.) A one-tailed t-test showed no significant difference ($t = 1.38$, $p > 0.05$) between the students' motivation and confidence levels in the two groups.

A single item analysis was done on 3 of the 8 points in the questionnaire. The items were as follows:

1. I am asked to write a short essay. I feel...

2. I am asked to write a free essay about anything I want. I feel...

3. I have been asked to enter a writing contest. I feel...

Raw data are listed in Appendix Eight. Using a Bonferroni adjustment to alpha, .05/8, the rejection of significant difference would be greater than 0.00625. On analyzing each item above individually ($t = 0.457$, $t = 0.959$, and $t = 0.650$ respectively), no significant difference was found between the control and experimental groups in any one of the statements.

Summary

Of the four hypotheses presented and tested, the first two considered the effect of teaching expert planning strategies on the length of time that students would spend in planning and on the type of planning. The latter focus was concentrated on increasing the number of rhetorical considerations as opposed to the simple linguistic choices which would tend to dominate the novice's planning time. A significant difference was found in the data collected to substantiate both hypotheses.

The latter two hypotheses considered the effect of teaching expert planning strategies on the quality of the written product, and on the confidence and motivation of the writers in their approach to a writing task. The analysis of

the data collected to support these hypotheses indicated that there was no significant difference as a result of the treatment.

The concluding chapter will summarize the problem, its methods, and results along with the limitations encountered in a hind-sight look. As well, the chapter will seek to interpret the research findings in light of these limitations and theories based on the related literature review and observation.

CHAPTER FIVE
SUMMARY AND DISCUSSION

Research Summary

The novice writer develops his composition in an add-on approach, using topic knowledge, discourse knowledge, and the partially constructed text as his cues for completing the assignment. The skilled writer, in addition to using these cues, develops a framework of goals which controls the content of the text through interaction with appropriate rhetorical choices. The analysis of problems and setting of goals consume a major portion of the expert's time before and during the writing process. Having considered the contrast between the two approaches of the novice writer and the skilled writer, the problem arises as to how to encourage novices to link their "knowledge-telling" (Bereiter & Scardamalia, 1984) strategies to the more powerful "knowledge-transforming" strategies connected with problem-solving and goal-setting.

The goal of the teacher, then, is to set up an environment which would reduce the gap between novice and expert writers and speed up the integration of whole-text planning into the writing processes of novice writers. The measure of success of this environment would be the extent to which the unskilled writers imitated the expert writers. The environment would be set up for skill reconstruction in order to encourage students to put aside their old writing habits and adopt new strategies traditionally used by skilled writers.

Twenty Grade 5 and 6 students participating in the research were randomly divided into control and experimental groups. The assumption was made that these children were novice writers. In order to achieve skill reconstruction, an enriched interaction was designed between the teacher and

students in the experimental group. The goal was that the students would be compelled to change their writing habits as a result of this interaction, which was based on expert planning skills as outlined in Linda Flower's book Problem-Solving Strategies for Writing, 2nd ed. (1985). The strategies of "plan", "play", and "push" were modelled by the researcher and imitated by the students in twelve treatment lessons. Simultaneously, the control group was involved in routine composition activities with their classroom teacher. All of the students were then individually asked to think aloud as they wrote an opinion essay. During these individual sessions, they were audiotaped as they planned and wrote their first draft, in order to compare the thinking strategies and quality of writing of the two groups.

Of the four hypotheses presented and tested, the first two considered the effect of teaching expert planning strategies on the length of time that students would spend in planning, and on the type of planning. Concentration would be on increasing the number of rhetorical choices as opposed to the simple linguistic choices characteristic of the novice's planning time. A significant difference was found in the data collected to substantiate both hypotheses.

The final two hypotheses considered the effect of teaching expert planning strategies on the quality of the written product, and on the confidence and motivation of the writers in their approach to a writing task. The analysis of the data collected to support these hypotheses indicated that there was no significant difference as a result of the treatment.

Interpretation of Findings

Conclusion 1: With exposure to planning methods of expert writers, novice writers spend more time in the planning stage of the writing process.

The phrase "exposure to planning methods" embraced the cognitive approach to writing instruction as explained by Bereiter & Scardamalia (Scardamalia, Bereiter, & Fillion, 1981). By recognizing that the parts of the writing process are interdependent but can be identified and taught as separate elements, the author identified expert strategies in the planning phase and taught these elements to the students. Skill reconstruction, another of the Bereiter and Scardamalia's concepts (Bereiter & Scardamalia, 1984), was used in two ways in the treatment sessions. Firstly, the circumstances around which the students were asked to plan and write were altered by creating legitimate problems for a real audience based on current school issues. Thus, they were directed toward the use of one particular genre, that of opinion writing. They were given practice in opinion writing in order to encourage the use of expert planning strategies such as audience awareness and goal-setting. Secondly, the lessons were designed to follow the approach of modelling set out by the skill reconstruction method. This approach included thinking-aloud modelling by the teacher which then carried on to a few volunteer students and, finally, to the total group. In the end, this approach encouraged the treatment group to copy the verbal thinking strategies of the teacher.

Thus, the experimental group, when told to plan for as long as possible in the individual writing sessions, was more comfortable with the concept of planning and, consequently, was able to utilize a longer period of time before

beginning the initial draft. The natural approach for the majority of students at the Grade 5 or 6 level would be to simply get started writing as soon as possible on the topic chosen. This observation has been born out in some of the literature reviewed earlier (Bereiter & Scardamalia, 1985, 1987b; Hayes & Flower, 1986; Bereiter, Burtis, & Scardamalia, 1988) and in the author's personal experience with that age level. However, in the taping sessions, each student was specifically instructed to plan for as long as possible before beginning to write. The protocol analysis revealed that the control group used this time to think about content generation. The experimental group also thought about the content but most of the students in this group started their planning time with other considerations such as audience and purpose. In other words, they were imitating what they had learned in the treatment sessions through the skill reconstruction approach.

In the earlier lessons given to the experimental group, the concepts of stating the problem, stating the goal, and identifying the reader, the writer, and the purpose were taught by using abbreviated words and symbols which were easy to recall visually. Students had a relatively thorough reinforcement of these concepts because they were reviewed in each subsequent lesson following their introduction. In the taping sessions, the students in the experimental group were subjected to procedural facilitation in a very simplistic form through the use of a chart containing the symbols which reminded them of their training. By means of the repetitious learning and the visual reminder, these students were able to utilize the skills taught to increase their planning time.

Conclusion 2: With exposure to planning methods used by expert writers, novice writers increase the percentage of their planning time in the area of rhetorical choices as opposed to linguistic choices.

The "rhetorical choices" included organization of text, goal setting, consideration of reader, and expository considerations. In order to encourage the shift from writer-based prose to reader-based prose (Flower, 1979) in both the experimental and control groups, the writing genre chosen was opinion writing. Having a realistic purpose behind the essay, it was hoped that the students would be encouraged to do their most effective work.

Research has shown that novice writers have much greater access to content goals than to process goals (Flower & Hayes, 1981a, 1981c). The experiments of Bereiter and Scardamalia (1987b), following their efforts to teach children to think reflectively, indicated that most of the students' thinking statements still focussed on content generation. Similarly, in the current research, 76% of the thinking-aloud statements generated by the experimental group were centered on content generation. This figure can be contrasted to the approximately 40% generated by experts (Flower & Hayes, 1981c).

When the comparison was between the control and treatment groups, however, the treatment group demonstrated that there was a significant shift to rhetorical approaches in planning. Similarly, in the findings of Bereiter and Scardamalia (1987b), the treatment group made significantly more reflective statements than the control group.

In the present study, the control group utilized 13% of their total planning statements in making rhetorical choices. In contrast, the treatment group allotted 24% of their planning statements to rhetorical choices. These percentages could be compared to the 10% of the planning statements

designated to rhetorical considerations in the Grade 4 to 8 children who worked with Burtis, Bereiter, Scardamalia, and Tetroe (1983). In their experiment, the students were exposed to modelling and cue cards, and they were also instructed to plan before beginning to write.

It must be noted that, although there was a significant difference between the experimental group and control group in the number of rhetorical decisions made, both figures,13% for the control group and 24% for the experimental group, were not near the 60% proportion given by expert writers to rhetorical considerations (Flower & Hayes, 1981c). The relative ease of generating content in the planning time by both groups could be attributed to the common practice of brainstorming for content ideas that is encouraged in many classrooms in the early writing years.

When considering the number of rhetorical planning statements made by the two groups in each category, some contrasts were evident. The two categories of goal setting and consideration of the reader were significantly affected by the instruction period. In total, 16 statements for the experimental group versus 4 statements for the control group were made in the goal setting category, and 19 statements for the experimental group versus 1 statement for the control group were made in considering the audience. These two categories were part of the lessons introduced in the earlier sessions. As explained in Chapter Three, the lessons covered three areas: plan, play, and push. Goal setting and consideration of the reader were in the "plan" sessions. Therefore, the students in the treatment group had more time to review these planning strategies and to utilize them in practice times during the lessons.

In contrast, the two categories on organization of the text and expository considerations showed no significant influence by the instruction. In fact, there were more statements made by the control group toward organizing their text

than were made by the experimental group. In the data breakdown, four students in the control group made a total of 8 statements in text organization compared to two students in the treatment group who made a total of 3 statements. (The other students in the two groups did not have any statements connected to text organization.) It should be noted that the small sample would affect the validity of the results. However, of more important consideration to the researcher was the fact that the expository and organization skills were not taught until Lesson 8; that is, in the "push" sessions. Consequently, the students were not given much time to review and practise these strategies.

As a result of the treatment, the experimental group's performance more nearly approximated the knowledge-transforming model because of the relative importance assigned to problem analysis and goal-setting.

Conclusion 3: Exposure to planning methods of expert writers does not significantly improve the quality of the written product of novice writers.

The thinking-aloud statements that were audiotaped in the study were crucial in highlighting the students' prewriting strategies. If the analysis had been made solely on the written efforts of the students, there would be no evidence of the process, including the planning strategies of the students prior to writing the initial draft. To judge the performance of the children through the product only would mask important thinking competencies (Perl, 1979).

Why did the students who were subjected to the 12 lessons not show a significant improvement in their written drafts? One possibility is that the students were restricted in their topic choice. Allowing them to write from

personal experiences or to choose a narrative structure, for instance, may have affected the quality of their drafts. The author also believes that there was not enough generalization of planning strategies to independent writing. The "plan" section of the lessons was successful in relation to the assigned persuasion genre, as shown in the analysis of the data collected for the first two hypotheses. Also, the "play" section, which included the frequently-used planning approach of brainstorming, was readily utilized since the results of this section centered on content generation. However, as evidenced in the verbal protocol analysis, the concepts presented in the "push" section were not retained as well by the students. Possibly, they would have been absorbed more thoroughly if the treatment group had spent more time working with them. For example, the students apparently did not recognize the value of text organization in developing better text. Instead, they resorted to their old writing habits to produce the first draft. Assuming that the cognitive writing processes of students were based on the knowledge-telling model and that the students were finding that these strategies were adequate, why would there be a desire to change? There would be little incentive to develop more than the localized surface-level approach to writing (Bereiter & Scardamalia, 1984, 1986, 1987b).

Scardamalia and Bereiter (1985b) have noted that students do not grow naturally beyond the knowledge-telling strategy. For example, the most common type of persuasive writing produced by both 13 and 17 year olds in the National Assessment of Education Progress evaluations was a statement of belief accompanied by a list of reasons. Their writing lacked a well-developed argument, a typical outcome of the knowledge-telling model. The experimental group in the present research showed no more potential to have a well-developed opinion essay than the control group. The knowledge-telling

model was still in active use. The increased planning did not significantly affect the development of the argument in the essay.

In both the control and treatment groups, the presentation of their statements was related directly to the order of their idea generation. This add-on style of writing was prevalent and, with the exhausting of ideas on the topic, the statement "I can't think of anything else" was common in both groups. Whereas expert writers check each decision in the text with the goals that they have set previously and their organization of ideas, evidence of this type of checking was present in only two cases, both within the experimental group.

Bereiter and Scardamalia (1987b) noted that, in contrast to experts who can shuffle problems and solutions between the content and rhetorical problem spaces indicated in the knowledge-transforming model, novices had the one-way ability of taking content information to the rhetorical problem space only. Analysis of the tapes and written notes of the students in the study seemed to verify this theory. Brainstormed content could be linked with the chosen audience and brainstormed content could be hooked onto an organizational "tree". When writing started, however, the rhetorical considerations were not reversed back to the content space. They were rarely spoken about when the drafts were written and evidence of their application in the development of the text was minimal.

In summary, then, the carryover from rhetorical planning strategies to text generation was not sufficient to produce better quality writing. Since the development of text is already a long-term practiced manoeuvre for these students, the skill reconstruction presented to them was not strong enough or was not presented for a sufficient length of time to affect the quality of the text.

Conclusion 4: Following exposure to planning methods of expert writers, novice writers do not exhibit greater confidence or motivation to write.

The conclusion for the final hypothesis was taken from two questionnaires. One questionnaire asked the children to imagine themselves in particular writing situations and to state their feelings about being in those situations. The other questionnaire asked for subjective remarks on their concept of writing: seeing themselves in the status of good or poor writers, and remarking on the qualities of being a good writer.

The first questionnaire, How I Feel About Writing (Appendix Two), containing eight likert-type questions with a rating scale of 1 to 6, the smaller end being the "happy to write" end, indicated a small increase in confidence and motivation for the experimental group. The mean overall score for this group was 23.2 as compared to the control group's mean of 27. This difference was not significant. Each of the three individual items chosen to be most appropriate to the focus of the study also showed smaller mean scores for the experimental group.

It should be noted that item 4 on the questionnaire was not considered despite its opinion-writing focus. Analysis of its results along with the researcher's knowledge of the personalities of the subjects indicated a greater influence from the phrase "The principal tells me" than the writing emphasis placed on this question.

The overall conclusion drawn from the questionnaire was that there may have been a small improvement in the confidence and motivation level of the students involved in the treatment. The assumption is made that the 4-week lesson period was not long enough to have an influence in building up these young writers' confidence. Throughout the lesson, the treatment group was

enthusiastic and motivated to write when asked. This motivation did not carry over to any significant degree into their visualization of themselves as effective writers.

The second questionnaire, <u>Children and Adolescents' Conceptions of Writing (Composition)</u> (Appendix Three), yielded a larger number of qualitative statements. Only the responses to the first six questions were used in comparing the experimental and control groups.

The first question, "Are there some things that you like about writing?", received 7 "yes" replies in both the treatment and control groups. Some of the comments of the students are listed in Appendix Nine. The remaining students in each group gave 2 "no" replies and 1 "no response" in the treatment group, and 1 "no" reply and 2 "no response" answers in the control group. Although there was no significant difference between the two groups, their anecdotal comments showed that this class of 20 students, for the most part, enjoyed writing.

For question two, "Are there some things that you don't like about writing?", there were two common replies in both of the groups. The first one was the concern of "writer's block". The second concern focused on the way the writing was assigned. Some students didn't like "being limited to one topic" or "having to write about something you don't like".

The next question focussed on the confidence level of the students. The question asked "Is writing a hard thing for you to do?" The experimental group had a 10% positive response to this question while the control group had a 40% positive response. Six students in the experimental group felt that writing was not a hard thing to do while only three students in the control group felt this way. Taking into account the small sample, an observation can be made that the experimental group had gained some confidence in writing.

Question four asked "How good a writer would you say you are?" The students were allowed a 5-point rating ranging from "excellent" to "very below average". Three students in the experimental group rated their writing as excellent while none of the control group considered this rating to be appropriate in their self-assessment. Awarding the "excellent" rating with 5 points, the "better than average" rating with 4 points, and so on, a t-test revealed that there was no significant difference between the two groups in their evaluation of their own writing. It is interesting to note that none of the students in either group rated their writing abilities as "below average" or "very below average". Once again, the speculation can be made that this class was quite comfortable when asked to write. Some of the anecdotal comments made by the students for this question can be found in Appendix Ten.

The final two questions, "What things does a person have to learn to be a good writer?" and "What things does a person have to do to be a good writer?", were perceived to be similar in nature by the students and, so, had some common replies. The comments are written in more detail in Appendix Eleven. However, in summary, both groups considered spelling and mechanics to be important. The experimental group mentioned the "plan, play, push" strategies and such terminology as "brainstorming", "reader", "purpose", and "rhetorical problem" on several occasions. The need for a good vocabulary was mentioned by both groups.

By means of the two questionnaires described and the author's observations, this study found that students were not significantly affected by the treatment as far as increasing their motivation and confidence to write. Although the hypothesis was rejected, the results showed a general enjoyment in writing within the entire group and this observation was certainly a positive one. If the study had been carried on for a period of four months rather than

four weeks, it would be hoped that the research may have had a larger positive effect.

Theoretical Interpretations

Is expert strategy intervention effective? Five planning strategies introduced to Grade 6 children in a study by Bereiter and Scardamalia (1984) indicated that they were able to identify the strategies but were not able to incorporate them effectively in their writing. In the current study, this age group was also able to assimilate many of the planning processes of experts presented in the lessons. Some of the strategies were more strongly carried over into the planning assignments than others. In particular, these strategies were the ones presented in the earlier lessons. The result was that the treatment group spent a longer time in the planning phase of the writing process and their plans were significantly more rhetorically-based than the plans of the control group. However, in the carryover to the written product, the treatment group showed that the intervention of expert strategies in their thinking processes had no significant effect on their writing.

Other researchers have shared similar findings and have speculated on the cause for this lack of improvement in text. Barrs (1983) comments on the irrelevancy of adult writing processes to children's writing processes. The time spent by children on the physical act of putting words on paper cannot be ignored. At later stages, word use becomes much more automatic but, for novices, challenges of a much lower order consume their attention so that they are not able to consider concerns of a more sophisticated nature (Bereiter, 1980; Gould, 1980; Flower & Hayes, 1981a).

Research by Flower and Hayes (1981b) indicated that skilled writers mentally represent text with structure, gist, intention, specific language, and

content in mind. Scardamalia and Paris (1985) observed that, for 9 to 14 year old students, language and content were the only mental representations evident. Their reasons for this situation ranged from the possible lack of adequate vocabulary that the students had to report their abstract thought processes to the obvious situation that these students did only consider language and content. The studies of Piaget confirmed that this age group is not ready to leave their own frame of reference in order to adopt the abstract thinking needed to effectively develop reader-based text instead of writer-based text (Lunsford, 1979; Odell, 1973, in Lunsford, 1979). For this reason, the task of planning rhetorical strategies in order to persuade the reader to adopt the writer's point of view would be beyond the cognitive realm of most elementary-aged students.

Limitations of the Study

Sampling Procedures

The students chosen for the study were from a single classroom in the school where the researcher was a teacher. This "experimentally accessible population" (Borg & Gall, 1983) may not have been a true representation of the target population on which the researcher wished to focus; that is, novice writers.

Acknowledging that the probability of group equivalency would increase as the sample size increases, recognition has been given to the small sample size used in the study. Each one of the students contributed 10% to the results of their group, a relatively high proportion if there was a tendency for either the control group or the treatment group to have higher functioning students. Other factors that may have influenced the results would have been the writing

environment at home, the amount of writing experience in past school years, learning style, and the relationship of the instructor with the student.

By assigning the students randomly to the control and experimental groups, differential selection was minimized. This method of assignment did not ensure equivalence, but it was the best method available for the selection. The control group formed a standard with which to assess the effect of the treatment on the novice writers in the study.

Instrumentation

The environment.

A novelty effect may have been involved in the treatment with the experimental group and control group being taught by two different instructors. Lessons were given by the researcher rather than the homeroom teacher who taught the control group at the same time. The data collection, however, was administered by the researcher for each student. Consideration should be given to the effect of the teaching methods and the personalities of the two instructors (Odell, 1974).

The control group moved with their classroom teacher to a variety of locations for the simultaneous lessons while the treatment group remained in their own classroom. The control group was placed far enough away from the experimental group to avoid hearing the instruction that they received. This movement of the control group for their lessons was somewhat unsettling but it was counteracted by the presence of their teacher with whom they were accustomed to receiving daily instruction. Although every effort was made by the teachers to isolate the control group from the treatment, there was a natural discussion among the students about what they had been working on when they were separated from each other. This discussion was kept at a minimum

since the students were aware of the research design, but it could not be avoided entirely.

The lessons.

The researcher chose opinion writing which was a relatively new genre for the students. The reasons for this choice were to replicate, with modifications, some of the work of Bereiter and Scardamalia, and to help counteract the imbalance amongst the subjects in their knowledge of other genres. As noted in the previous section on theoretical interpretations, effective persuasive writing may have required a more abstract level of cognition than the average student was capable of attaining.

The author made an effort to include a variety of teaching styles to allow for the various learning styles and past experience of the students. These styles were incorporated into the four instructional approaches explained in Chapter Two: skill reconstruction, reflective writing, direct instruction of genre components, and procedural facilitation.

The students in the experimental group appeared to be at ease with the instructor immediately. However, their personalities and academic abilities dictated their degree of verbal response. Some were hesitant to model strategies in front of the group. All students were asked to participate verbally in the review section of the lesson, but they were only requested to participate in the lesson focus voluntarily. All students were expected to do the assignments with a choice of working with another student or working individually.

During the twelve lessons, there were two occasions of absenteeism. A review of the lesson was provided for each occasion.

Two lessons were not as successful as planned. Lesson 2 was only twenty minutes long because of a problem in scheduling with a substitute teacher. The balance of the lesson was reduced and incorporated into the next lesson. During Lesson 7, the control group took a day off from writing to assist another class in Physical Education. The P.E. class took place on the field outside the classroom where the experimental group was working, causing some distraction in the lesson.

The time element.

Time was a crucial limitation throughout the study. In retrospect, the researcher would have adjusted the timeline to accommodate a minimum of 20 lessons and the completion of the data collection before the end of May of the school year. Attempting to fit the lessons and data collection into the school day while the researcher taught full-time in a class which was not involved in the study created cumbersome gaps in the data collection period. As well, too little time was allotted to consolidate specific lessons. In particular, the visualization of the reader would have been a valuable tool. Because the students were more experienced in oral communication, the mental imagery of talking to the reader and imagining his response could have been utilized more effectively. Also, the focus of Lesson 6 on resting and incubating was treated too lightly. Procedural facilitation through the use of planning cues in Lesson 11 was done too quickly and, therefore, was not as useful to the students. The time factor was evidenced in the data analysis as the author noted the greater success by the experimental group to incorporate the concepts taught in the earlier lessons.

Data Collection

One of the main methods of data collection was taping thinking-aloud protocol statements made by the students as they planned and wrote their drafts. Researchers such as Easton (1982) and Selfe (1984) have observed in their work that this type of data collection can provide only a partial view of the complicated thought processes of the writer. It must be noted, however, that these data, although limited, give some insights into the planning processes of the students that would otherwise have not been available.

Collecting the verbal protocols caused some degree of stress for many children. All students were given training in thinking aloud for two 40-minute lessons. More extensive preparation would have been optimal. All children were given the same introductory talk before they commenced their planning. To ease the concern about the tape recorder, the tester had the tape recorder running for several minutes before the children actually began their verbalizations. Some of the students were more conscious of the tape recorder than others and were more reticent to speak their thoughts aloud.

Depending on the appointment time scheduled, the children were taped in a variety of rooms in the school according to the available space. Some students were taped in a large empty classroom, some were taped in a small resource room, and most of them were taped in a small counselling room. Depending on the area and time, the noise level fluctuated during the taping sessions from the extreme of having a Music class next door to the opposite situation of having Sunday afternoon taping sessions with no other children present in the school. Although the tester made every effort to ignore the external noises and most of the children were able to ignore them better than the tester, the distraction of the working environment may have affected the concentration level of the children being taped.

The recorded data collection went from May 23 until June 20, 1990. Five students were taped in the last two weeks of the school year, which was not ideal for maximum concentration.

The students were asked to choose one of five topics on which to write a short essay. All of these topics focussed on opinion writing, which had been the style of writing used in the treatment lessons as well. Although the treatment group was asked to do a similar task, the transfer of skills was weak, as verified by Hypothesis Three. Having used a similar genre for both the lessons and data collection may have put the treatment group at a greater advantage. If the students had been asked to write an essay in a different genre such as description, the effect of the planning lessons may have been even less consequential.

The group writing assignment was discarded because of the less than ideal working conditions and the consequent effect on some of the students' concentration levels. This assignment would have helped to counteract the effect of using a single writing style but, under the circumstances, measured only their ability to concentrate in unfavourable conditions. Allowing students to write an essay using the topic and genre of their choice or, at the very least, a genre different than the one used in the treatment lessons may have enhanced the data collected for this study, but would also have introduced a new set of factors which may have caused a variance among the results.

The questionnaires were administered in the students' own classroom with the whole class present. In this way, an attempt was made to maintain as normal an atmosphere as possible.

Within the experimental group, there was one "English as a Second Language" student. Her weaker command of oral and written English may have had some effect on her understanding of the lessons. The data showed

that, within the experimental group, she had the lowest proportion of planning time to total writing time. She did not appear stressed in the group and participated as well as possible.

Finally, a consideration of the additional demands of handwriting should be noted. The author's teaching experience has made her aware that children are sometimes much more proficient at composing orally without the stress of writing the words on paper. A replication of the study with oral composition may indicate a difference in the quality of the final product.

Through all of the limitations cited, it is important to consider that the control group and the experimental group were placed under similar circumstances when the data was collected.

Data Analysis

The investigator who designed the experiment and interpreted the data was the same person who administered the experiment and collected the data. Thus, an experimenter bias effect was possible in that the results could have been affected by the researcher testing all the children and expecting more from the treatment group with whom she had worked. The researcher was conscious of this possibility when she did the taping. An independent rater who listened to all twenty tapes commented on the unbiased approach that the researcher took to each student when she tested them. The researcher's approach included reading the same set of instructions to each student while adding the additional phrase "as you know from our lessons" when she addressed the students in the experimental group.

To help reduce the experimenter bias effect, the researcher did not analyze the data. Data for Hypothesis One was collected by an independent rater with a stop watch. The same rater tallied and counted the idea units to

support Hypothesis Two. Hypothesis Three's data were rated by three teachers who worked collaboratively. Finally, the data for Hypothesis Four were scored by the independent rater who had analyzed the data for Hypotheses One and Two.

On consultation with one of the university's statisticians, the posttest-only control-group design was considered best for the study. The researcher was aware that using a posttest only was best when working with a larger number of subjects. The absence of a pretest meant that initial differences between the experimental group and control group were not controlled.

The use of means with a small number of subjects would have yielded unrepresentative t-test values if there were outliers. If median scores had been calculated, the potential effect of outliers may have been judged.

The decision of the author to analyze only the first draft was made to eliminate the effects of revision on the written product. Since planning was the focus of this study, the author wished to avoid adding another factor. However, further study would include a continuation of the drafting process to include editing and revising. If time had been given to the students for these additional steps, the essay qualities may have changed the outcome of the conclusions drawn on Hypothesis Three.

Implications of the Findings

Recommendations for Continued Study

Parts of the experimental process were viewed as successful and would be highly recommended for consideration in continuing endeavours to help novice writers acquire expert planning strategies.

Skill reconstruction.

Skill reconstruction was the foundation for much of the experimental treatment since the students were dealing with an activity that was already familiar to them, that of writing composition. The goal of the treatment was to encourage them to bring their skills up to a higher cognitive level.

One instructional approach used for the reconstruction was to create a task situation that would urge the students to try new procedures. Using the concerns of the students about changing their school environment stimulated an active interest in the project. It also encouraged discussion and gave a realistic purpose for writing. By creating legitimate problems, the students were motivated to try the planning strategies presented in the lessons.

Another instructional approach was to enrich the interaction between the instructor and students in order for the students to adopt the procedures presented by the instructor. The results of Hypotheses One and Two indicated that the students were able to absorb expert planning skills presented in a modelling situation by the teacher and fellow students. To a significant degree, students were able to imitate the strategies adapted from the "plan, play, push" methods presented by

Linda Flower in her book <u>Problem-Solving Strategies for Writing, 2nd</u> <u>ed.</u> (1985) and modelled by the instructor.

<u>Procedural facilitation.</u>

Procedural facilitation allowed for the use of some kind of external support without actually taking on part of the task. When given the writing task, the experimental group was provided with a coded chart (Appendix Five) reminding them of the planning strategies that had been presented in their lessons. It was a method of assisting them to utilize the strategies without having the teacher intervene in their actual planning processes.

<u>Verbal protocol analysis.</u>

Although limited by the inexperience of the students in verbal protocol techniques, this data collection tool gave insights into their thought processes as they were occurring. The author was able to detect planning strategies that were not evident in the data presented on paper.

The exposure of novices to expert planning strategies allowed them to catch a glimpse of how experts think when they compose. They were provided with an opportunity to think reflectively. They participated, albeit briefly, in the knowledge-transforming process, taking part in the problem solving interactions between content and rhetorical problem spaces. Through their exposure to expert planning strategies, novice writers were given the incentive to interrupt their think-write routine with rhetorical considerations.

Recommendations for Adaptations

Although the treatment group of this study showed evidence of new learning, their primary focus remained in the area of content generation. Studies by Burtis, Bereiter, Scardamalia, & Tetroe (1983) and Bereiter & Scardamalia (1984) confirmed this outcome when they found that students at the Grade 6 level were capable of increasing their planning time and identifying expert strategies. However, the students demonstrated no significant increase in their ability to utilize these planning strategies. One explanation of these results could be that lower-order challenges, such as correct spelling, consumed their cognitive processes. Another possibility is that the process of decentering was not part of their cognitive awareness.

The following changes are recommended as a follow-up to the current research.

Topic selection.

The data collected to verify Hypothesis Three failed to confirm any significant improvement in the students' writing following the treatment lessons. Even with a choice of five topics, four of which had been generated by the students, there may have been a reasonable chance that a student would not find a topic that would be special to him; that is, one that he would have a lot of information about or care to write about. Allowing the student to select his own topic may have prompted more positive results in writing quality. If topic choice were permitted, a pretest would be necessary to accommodate the greater variance among the results.

Genre selection.

With the desire to utilize studies by Bereiter and Scardamalia, and to use a genre which was not as familiar to the students but which still would be stimulating to them, the author chose opinion writing. The difficulty and complexity of opinion writing may have had an effect on the students. Allowing each student to have his own topic choice and to select the genre to fit his subject may have promoted better quality in the written product.

The freedom to take the planning strategies presented and to adapt them to the student's own content area and writing style may have affected the results of the questionnaires as well. Having the student personally connected to the written product on a topic of his own choosing as opposed to having him select one of five given topics may have promoted greater motivation to continue writing.

The time factor.

The analysis of the data showed that the strategies presented in the earlier lessons and which were reviewed in subsequent lessons were utilized more effectively. Given the opportunity to replicate the study, the author would have lengthened the number of periods given to planning instruction. The lack of sufficient time was a detrimental factor in the data collection as well. The researcher was working within the framework of the school's time schedules and had limited release time from her own classroom. These time constraints prompted the researcher to offer a choice of topics rather than providing time for them to generate their own topic. Provision of time for collecting another planning/drafting sample from each student would have been

beneficial, especially when considering whether the treatment group was able to transfer their planning knowledge to other genre.

Recommendations for Future Study

The hypotheses of this study focussed on four aspects pertinent to an expert writer: increased time in planning, more rhetorical considerations within the planning time, better quality product, and enthusiasm to write. The following questions were considered in the research and are open to further study: Can skill reconstruction be accommodated through the process of modelling expert strategies to young students? Will the teaching of expert strategies in the area of planning for written composition speed up the process of achieving expertise in the field of writing?

The Ontario Institute for Studies in Education is just one location where much time in applied research has been given to the study of methods which would promote writing expertise in students. The aim at this institute has been to encourage young subjects to put the knowledge-telling habits aside and develop more reflective thinking while they are composing (Bereiter & Scardamalia, 1987b). Similarly, by adapting the expert strategies from a book designed for adults (Flower & Hayes, 1980b, in Brooke, 1989) and making them understandable to elementary students, the author has attempted to encourage her students to acquire expert-like abilities in writing. In the process, the research has yielded several recommendations for future study.

1. The present research could be clarified and extended by addressing issues referred to in the discussion of limitations. For example, the matter of restrictive time schedules and varied data collection environments could be changed and improved.

2. More sophisticated data collection techniques such as the use of videotape and the use of an independent evaluator might yield more specific and more valid results.

3. Several considerations for further study might include replication with different settings and populations.

4. Allowing topic choice and personal genre selection to suit the interests of the students would help in evaluating their ability to transfer planning strategies taught in the treatment lessons.

5. Control for entry level behaviour could be incorporated in order that statistical treatment could partial out the difference attributable to experimental treatment.

6. To further assess the students' perspective of the treatment, it might be valuable to use a questionnaire such as <u>Mathematics in School</u>, taken from the 1985 B.C. Provincial Assessment of Mathematics. This questionnaire could provide insight into the students' perception of the topic: its difficulty, its importance, and its enjoyment level.

7. Investigation of effective skill reconstruction techniques might enhance further studies which focussed on the relationship between novice and expert writers.

The Writing Challenge

Many of these closing remarks echo the concerns of Bereiter and Scardamalia (1986, 1987b) and encompass the most vital implications of this research for a wide student population, the novice writers in our schools today. It is hoped that these final statements will adequately portray the author's desire to see educators strive for the development of expertise in the thinking processes of their students as they learn to become effective writers.

From Knowledge Telling...

Consider an educational system that promotes the use of cognitive strategies already in place by its students. Suppose that the knowledge-telling model of writing is indicative of the thought processes of the children in the system. Because the effectiveness of the knowledge-telling steps depends on the assigned topic and its connection to the writer's experience, the literary form chosen by the teacher, the writer's mood at the moment, and what he has been studying recently, the student depends on the teacher to supply a meaningful context for his writing. The teacher, as a consequence, promotes cognitive passivity in the student.

If changes are to be made in cognition, the best environment may not be the one in which meaningful experiences are dependent on others. Long-term benefits are replaced by the nurturing of "lifelong novices" (Bereiter & Scardamalia, 1986). As students perceive the knowledge-telling steps to be adequate in dealing with their assignments, they have little incentive to strive for a different approach to writing. Instead, they practise becoming better novices. In exchange, they miss out on developing the cognitive problem-solving challenges that are available through the writing process.

...To Knowledge-Transformation

When the educational setting is such that students are not challenged to rise above their present knowledge and pursue higher cognitive goals, then they become reliant on well-used approaches to writing. The teacher has the opportunity and, in fact, the obligation to provide a more meaningful environment for student writers. In order to regroup segments of knowledge into new avenues of thinking, students must wrestle with their thought patterns.

The opportunity for sophisticated cognitive stimulation is available in writing as the knowledge-transforming steps are incorporated into the thinking strategies of young writers.

The knowledge-transforming model is one of "intentional writing" (Bereiter & Scardamalia, 1987b). Knowledge is transformed; that is, it is reprocessed, revised, reorganized, and interconnected. Through this reworking of knowledge, writers gain more than improvement in compositions. They stimulate their thinking processes through a metacognitive outlook on their own writing. The knowledge-transforming model allows for reflection as problem-solving strategies take effect in the recognition of and development of solutions.

Students need to be challenged to achieve greater levels of thinking. When teachers work alongside their students in a cooperative effort to understand the complexities of their thinking processes through writing, they learn from each other.

The writer's ultimate goal through her research was to motivate students to set goals and make decisions before beginning to write. By modelling problem-solving strategies and planning procedures for the students, and gradually allowing the students to take over these thinking processes, it was hoped that they would catch a glimpse of knowledge-transformation. With changes in the experimental design and treatment, as expressed in the limitations and recommendations, this process would hopefully be accelerated.

Only when novice writers see planning as a beneficial exercise in making their writing more meaningful will they adopt the processes independently.

APPENDIX ONE

Detailed Lessons Outlines for the Experimental Group

LESSON ONE - PLAN

Warm-Up: The students are partnered and each group is given a picture. Using the images in the picture, they are to write as many "ing" words as they can think of.

Lesson Focus: Questions to be asked: "What happens when you write? Why do you write? Have you ever had trouble writing?"

"Thinking takes many forms -- daydreaming, memorizing, recalling memory, asking questions, and problem solving. People use problem solving when they have a problem or a goal and they want to get to it."

"Problem solving is a form of goal-directed thinking. Writing is a powerful way to think problems through."

Show diagram as follows:

```
Problem                 Goal
    P ----------------------> G
              Problem
              Solving
```
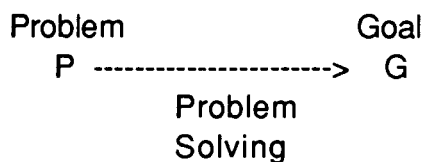
"We are going to be focussing on opinion-type writing. I will teach you how to plan so you can, hopefully, be a better writer."

Outline the 3 main areas of focus over the upcoming lessons.

I. PLAN   II. PLAY   III. PUSH

Introduce PLAN in this lesson.

PLAN

Explore the Rhetorical Problem

Define the purpose, the audience, and the writer.

Use pages 64 - 66 in Problem-Solving Strategies for Writing, 2nd ed (Flower, 1985). Define "rhetorical". Discuss:

Purpose: set a goal, ask what you want to accomplish and what effect you want to have with the paper, visualize the finished product.

Reader: Who is it and what should he feel after reading the paper.

Writer: how do you want to be portrayed; for example, enthusiastic and certain, or a little unsure. Think of talking face-to-face with the reader.

Application: Define the purpose, reader, and writer for a paper on where your classroom should be situated (group discussion)

LESSON TWO - PLAY
Warm-Up: Pet Peeve Assignment from Writing For Results (Scardamalia, Bereiter, & Fillion, 1981).

After introducing a pet peeve of the teacher's such as the example given in the book: "I don't like skateboarding because it is dangerous", students must argue the opposite point of view by replying specifically to the reason given by the teacher.

Review: Review problem solving and what it means (use the P---->G diagram.) Review the rhetorical problem -- considering reader, purpose, and writer.

Lesson Focus: "Goals state where you want to end up. Plans say how you are going to get there (Flower, 1985, p. 69). It's cheaper to build a plan than the real solution. Therefore, architects have blueprints rather than concrete and writers plan a 20-page paper before they write. A good plan need to be detailed enough to test but cheap enough to throw away."

Application: "Today we're going to make a plan." Solicit topic suggestions for things that students would like to change around the school. Choose one for focus as group discussion. With this topic, work through making a plan to DO and a plan to SAY (Flower, 1985, p. 70). The plan to DO involves an outline of goals and ways of achieving them. Introduce the diagram as in Figure 5-1 on page 70 with the purpose on top and the breakdown of two goals under it as follows:

Purpose

Goal   Goal
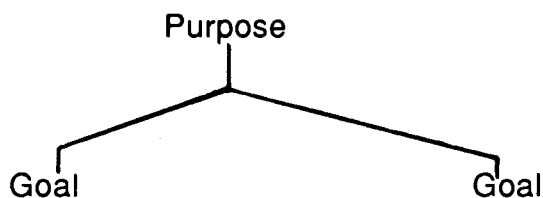
LESSON THREE - PLAN

Warm-Up: (The warm-up was omitted due to confusion generated from a substitute teacher being in the class.)

Review: Review of P------->G and consideration of rhetorical problem (writer, reader, and purpose). Review the plan to DO and plan to SAY and fact that these must be revealed to the reader.

Lesson Focus: What about the reader? Consider his knowledge, his attitude, and his needs.

Application: Whole group project: Take the "map" of Lesson Two and work through one topic generated by the students as an issue in the school. Follow the format begun earlier.
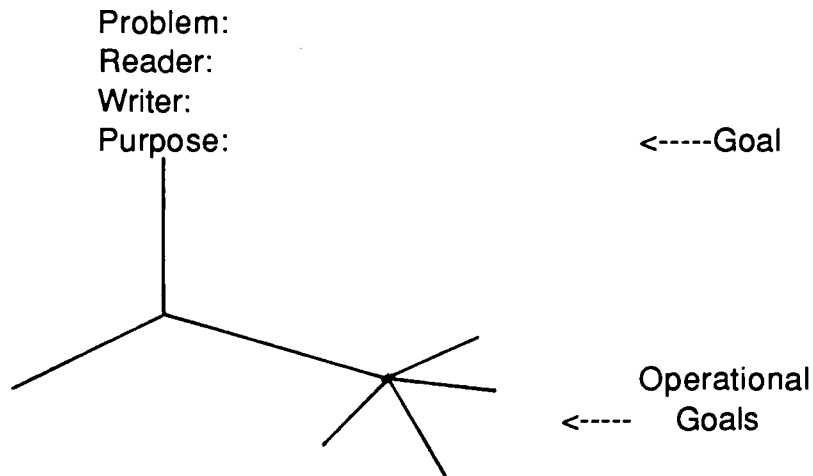
Problem:
Reader:
Writer:
Purpose: <-----Goal

how?
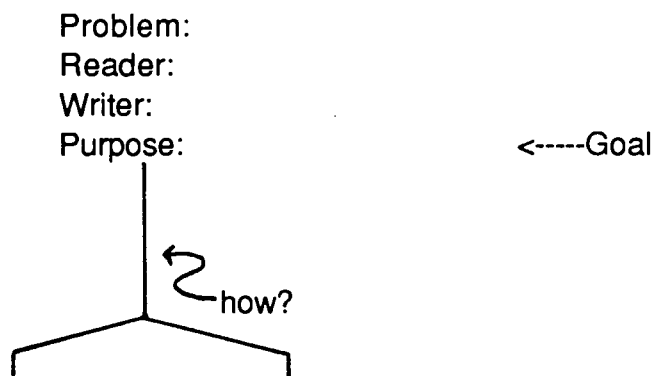
LESSON FOUR - PLAN

Warm-Up: Argument: Refutation assignment from Writing For Results (Scardamalia, Bereiter, & Fillion, 1981). The teacher and one student are timed while they start with a statement followed by a reason for the statement. This reason is then refuted by the partner. They take turns giving explanations and refuting the explanations until time is up or one uses an unreasonable statement such as "Because it's the truth" or "Because I said so." Following the modelled strategy, the students are then paired to practise on their own.

Review: P-------->G and rhetorical considerations

Lesson Focus: Consider the reader: his knowledge, attitude, and needs. Reveal your plan to your read through a problem/purpose statement at opening of composition. Briefly mention the Rogerian argument and what it conveys (showing empathy for the other side, expressing this empathy early in the paper, and using the other side's viewpoint as a jumping-off point to hit home your argument.)

Application: Complete the outline begun in Lesson Three with a specifically chosen issue affecting the students. Remember: The plan is a sketch, not an elaborate outline.

Problem:
Reader:
Writer:
Purpose: <-----Goal

                                                Operational
                                  <-----   Goals

LESSON FIVE - PLAY

Warm-Up: Students are to write down all that they can remember about planning before starting their initial drafts.

Review: P ------>G, rhetorical considerations, sketch a plan, review of sketch we made in the last 2 lessons. Reminder that the sketch doesn't have to look like the one presented previously. It can be a cluster or a set of scribbles, etc. Discuss again about revealing your purpose to your reader. "Good writers use a 3-step formula to plan what they will write."
Step 1: Make a PLAN -- includes goals and a sketch.

Lesson Focus: Step 2: PLAY
Introduce this step with a visualization of the meaning of the word "play". Discuss types of physical play and then explain that a form of mental play is "creative thinking"; that is, a mind playing! Through creative thinking, you explore your mind, taking old ideas from your memory and making new ideas by putting some old ones together.

Application: The students are divided into groups of 2 or 3. They are given a new topic that they had suggested earlier. Given a set amount of time, they are to brainstorm (PLAY) ideas to support the topic (another school problem). Rules for brainstorming: Don't censor, just write down any ideas. Don't perfect grammar or spelling, etc. Keep your eye on the question ("Brainstorming is a goal-directed search for ideas.") They then come

together as a large group to share their ideas. While ideas are being given, teacher can write them on the board under possible sub-headings.

LESSON SIX - PLAY
Warm-Up: Brainstorm in buddies: as sharp as _____.
Exchange words lists. Star 4 favourites. Read some to whole group.

Review: Give 2 worksheets to each person in the group. The worksheets allow space to write the 3-step process, to list the rhetorical considerations of problem, reader, writer, and purpose or goal, to sketch a plan, and to brainstorm ideas. Give the students a topic that they can adapt to the process on the worksheet. (The review will constitute the major portion of the lesson.)

Lesson Focus: Two areas will be taught:
1. "Talking to the reader" -- Visualize your reader as a live audience, visualize talking with him face-to-face. Take both sides of the argument, imagining the reader's response.
2. "Rest and incubate ideas" -- Keep the assignment's problem in mind. Let it be in your thoughts while you do other things like sleep, walk to school, or work on other activities.

Application: None given.

LESSON SEVEN - PUSH
Warm-Up: Complete the brainstorming section of the worksheets introduced in Lesson 6. Buddy up, share brainstormed ideas, and add more to the lists through sharing.

Review: Review steps outlined in the two worksheets.

Lesson Focus: This is a 2-part lesson:
1. "Nutshell ideas". Look at all the brainstormed ideas on the worksheet. Star the main points and try to combine ideas in order to condense them. Try to have no more than 4 main points.
2. "Teach the ideas". Take the condensed ideas, thinking of which ones would be most meaningful to the reader, and present them to an imagined reader (in this case, a partner or possibly the whole group) so that he/they will understand the overall meaning that was meant to be conveyed. The listener has to get the point of the argument.

Application: The application involves the presentation of part 2 of the lesson (above).

LESSON EIGHT - PUSH
Warm-Up: Draw a deciduous tree without its leaves.

Review: Teacher quizzes the class on the steps of PLAN: P --->G, rhetorical considerations, and sketch; PLAY: brainstorming, "talking" to reader; and PUSH: nutshelling and teaching main points to reader.

Lesson Focus: Have the students turn their trees upside down. They should look similar to this simplistic design:

Relate their drawings to the concept of an "issue" tree. In its simplest form, the issue tree would look like this:

Problem Definition

Issue   Issue   Issue
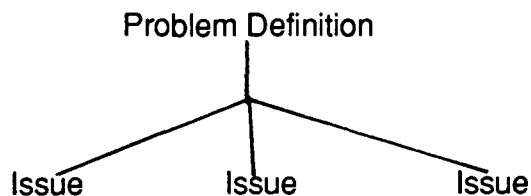
Conclusion

Emphasize the hierarchical organization of such an outline for their ideas. Take about 5 nutshelled ideas from Lesson 7 and write them on the board. Pull out the key words. Begin building a sample tree with these key words.

Application: Each student prints two of their nutshelled ideas from the topic introduced in Lesson 6 onto cards and tapes them to the board. After all cards are displayed, the whole group works to find key words, underlines them, and then begins to create an issue tree with them.

LESSON NINE - PUSH
Warm-Up: As this is a continuation lesson, there is no warm-up.

Review: Go over the steps involved in creating an issue tree -- statement of problem, reader, writer, purpose; brainstorming of ideas, nutshelling ideas, finding key words, creating a tree on which to put key words as an outline.

Lesson Focus: Since the genre for instruction in planning is opinion writing, talk about Carl Rogers strategy, the "Rogerian-style" argument (Flower, 1985), as a unique method of developing an argument. (This method was originally mentioned in Lesson 4.) The basic premise of this strategy is to present the reader's case first in order to demonstrate a respect for his side of the argument. Then, the reader hopefully will be more attentive when the writer's position is presented next. Once again, this strategy is only presented verbally by the instructor and no time for specific application will be given. (Some students will understand the usefulness of the strategy as presented. For the others, its complexity at this stage in their writing does not warrant the extra time that it would take to drill the procedure.)

Application: Using the issue tree created, write the paragraph(s) for the topic presented. Students should buddy up with one other person or work independently.

LESSON TEN - REVIEW
Warm-Up: Listen to the paragraphs written at the end of Lesson 9.

Lesson Focus: Remind students that, whenever they do any writing, they should try to spend more time thinking about what they will write. They are not wasting their prewriting time by going through the procedures of plan, play, and push. Review parts of each of these steps.

Application: Individual writing assignment, given a new topic. Students are expected to utilize the planning skills that they have learned before they begin their initial draft. Instructor conferences individually with students as they are working.

LESSON ELEVEN - REVIEW
No Warm-Up or Review.

Lesson Focus: The lesson is based on procedural facilitation through the use of planning cues as explained in Scardamalia & Bereiter (1987b). The planning cues listed on page 305 include:

"An even better idea is..."
"An important point I haven't considered yet is..."
"A better argument would be..."
"A different aspect would be..."
"A whole new way to think of this topic is..."
"No one will have thought of..."

"An example of this..."
"This is true, but it's not sufficient so..."
"My own feelings about this are..."
"I'll change this a little by..."
"The reason I think so..."
"Another reason that's good"
"I could develop this idea by adding..."
"Another way to put it would be..."
"A good point on the other side of the argument is..."

These cues can be typed up on individual cards as a prompt for the PLAY step of the student's planning.

Application: Students are given a topic and are asked to think of plans for the assignment. At the brainstorming part, the students are asked to present their ideas one-by-one in a round robin arrangement. If anyone gets stuck, instead of passing on to the next person, that person picks up a planning cue from the pile, reads the statement and attempts to complete the statement. By having a sentence starter, it is hoped that the student will view the topic from a different perspective and be able to generate a wider variety of ideas.

LESSON TWELVE - REVIEW
Lesson Focus: A chart is presented to the group with a brief overview of the first 9 lessons. (The chart is presented in Appendix Five.) All steps are reviewed, using the chart as a guide. Emphasis is made again on the importance of planning before the initial draft.
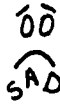
Application: Using the chart as a means of procedural facilitation, the students are given a choice of two topics on which to write a short essay. They are asked to plan using the strategies learned in the previous lessons.
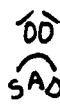
APPENDIX TWO

How I Feel About Writing
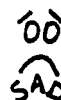
Developed by Marjorie C. Moore. Used with permission.

1. I am asked to write a short essay. I feel

   0 0
   HAPPY   1 ------- 2 ------- 3 ------- 4 ------- 5 ------- 6   oo
                                                                          SAD

2. I receive a gift and want to write a thank-you note. I feel

   0 0
   HAPPY   1 ------- 2 ------- 3 ------- 4 ------- 5 ------- 6   oo
                                                                          SAD

3. I am on a school hike and I see a beautiful scene of mountains, trees, and sky. The teacher says it must be written up for my journal. I feel

   00
   HAPPY   1 ------- 2 ------- 3 ------- 4 ------- 5 ------- 6   oo
                                                                          SAD

4. I get into an argument with another student. The principal tell me I must write out what happened so he can deal with me fairly. I feel

   00
   HAPPY   1 ------- 2 ------- 3 ------- 4 ------- 5 ------- 6   oo
                                                                          SAD
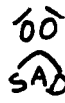
5. I am asked to write a free essay about anything I want. I feel

   00
   HAPPY   1 ------- 2 ------- 3 ------- 4 ------- 5 ------- 6   oo
                                                                          SAD
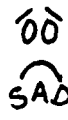
6. I am asked to write an essay about a very specific topic. I feel

   00
   HAPPY   1 ------- 2 ------- 3 ------- 4 ------- 5 ------- 6   oo
                                                                          SAD

7. I have been asked to enter a writing contest. I feel

   00
   HAPPY   1 ------- 2 ------- 3 ------- 4 ------- 5 ------- 6   oo
                                                                          SAD

8. If my parents insisted that I write in my journal or diary every night for 15 minutes, I would feel

   00
   HAPPY   1 ------- 2 ------- 3 ------- 4 ------- 5 ------- 6   oo
                                                                          SAD

APPENDIX THREE

Children and Adolescents' Conception of Writing (Composition)

Developed by Dr. Bernice Wong, Simon Fraser University
Used with permission.

1. Are there some things that you like about writing (composition)?

   Y   N   No response

   What are they:

   _____

   _____

2. Are there some things that you don't like about writing (composition)?

   Y   N   No response

   What are they:

   _____

   _____

3. Is writing (composition) a hard thing for you to do?

   Y   N   No response

   Why?

   _____

   _____

4. How good a writer would you say you are?

   Excellent above average   average   below average   very below

   Why do you think so?

   _____

   _____

5. What things does a person have to LEARN to be a good writer?

6. What things does a person have to DO to be a good writer?

7. When a person in grade one is writing a story, is he/she doing the same thing as a person in Grade 6?

   Y   N   No response

   Why?

   _____

   _____

8. When a person in Grade 6 is writing a story, is he/she doing the same things as a grown-up?

9. Why do you think some children have trouble writing stories?

10. What things do you need to learn to be a better writer than you are right now?

11. (For adolescents in Grades 6, 7, and in high schools)
Many people think that writing (as in writing an essay) is one of the most important things that you do in school. What would one say writing is about?

12. How do you write?

13. What goes on in your mind when you write?

APPENDIX FOUR
Instructions Given for Individual Writing Samples

Do you know that adults sometimes think for fifteen minutes or more before starting to write?* I'm going to let you select a topic and I'm going to ask you to write a brief essay on that topic. (Allow time for student to read the five choices and select one of the topics.)

I don't want you to begin actually writing the paragraph or paragraphs until you've done as much planning as you can. I want you to say your plans out loud for as long as you can before starting to write your essay. You can make notes as you're planning.

"Just plan out loud the kinds of things you usually plan when you're going to write something. You may think of things like what *difficulties* might come up while you're writing, what problems you might have and how you'll handle those problems. And you might want to think about the topic, trying to *remember what you know* about it and what kinds of things you want to put in your paragraph. Also, you might want to think about *what your goal is* in writing this -- what you're trying for in what you write. There are also things to think about like *how the people who read this will react* to it, what they'll think and what that means for how you should do things in the paragraph. Then, of course, you need to figure out *how to put everything you've thought about together* to come up with a really good paragraph. So really, I just want you think about the kinds of things you and other writers usually think about when they're planning to write something." (Bereiter & Scardamalia, 1987b, p. 197)

You may begin whenever you're ready.

*For the experimental group, the opening question was changed to: "As we have talked about in our lessons, you know that expert writers sometimes think for 15 minutes or more before starting to write."

APPENDIX FIVE

Procedural Facilitation Chart for Experimental Group

PLAN

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    *-------------------------------*
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P   Prob.   G

        Solv.
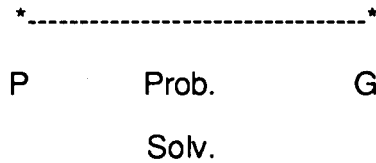
Consider Rhetorical Problem:

    1. R

    2. W

    3. P

                        Sketch a plan

PLAY - "CREATIVE THINKING"

Brainstorm ideas.

Talk to your reader. Pretend they're sitting right here.

PUSH

Nutshell ideas. What are the key points?

Build an issue tree.

APPENDIX SIX

Raw Data for Planning Time and Total Writing Time

Planning Time (minutes)	Total Writing Time (minutes)	Planning Time/ Total Writing Time (%)
(CONTROL GROUP)		
1.02	10.40	9.8
4.27	13.70	31.2
1.13	7.33	15.4
6.20	15.22	40.7
4.87	10.50	46.4
1.53	6.25	24.5
1.27	6.87	18.5
9.17	31.10	29.5
6.12	22.55	27.1
16.08	36.85	43.6
(EXPERIMENTAL GROUP)		
5.75	16.57	34.7
13.10	22.95	57.1
7.10	20.70	34.3
5.48	10.80	50.7
5.73	18.20	31.5
4.53	8.68	52.2
11.88	24.92	47.7
16.42	25.77	63.7
16.47	32.35	50.9
9.50	17.33	54.8

APPENDIX SEVEN
<u>Raw Data for Quality of Essay</u>

Ratings are listed for:

ITEM #1 - Development of Essay -- flow and organization

ITEM #2 - Point of View -- Does the student take a point of view, state it, and convince the reader of it?

ITEM # 3 - Elaboration -- How effectively does the student elaborate on his argument?

ITEM # 4 - Resolution -- Does the student attempt to answer opposing arguments and resolve them?

TOTAL SCORE

	ITEM NUMBER			TOTAL SCORE
#1	#2	#3	#4	
	(Rating scale of -3 to +3)			

(CONTROL GROUP)

-2	0	-1	-3	-6
2	1	1	-1	3
2	1	2	1	6
1	2	3	2.5	8.5
1	2	2	1	6
2	2.5	2	2	8.5
-1	3	-2	-3	-3
1	-3	-3	-3	-8
2	1	2	1	6
1	2	2	-3	2

Raw Data for Quality of Essay, continued

Ratings are listed for:

ITEM #1 - Development of Essay -- flow and organization

ITEM #2 - Point of View -- Does the student take a point of view, state it, and convince the reader of it?

ITEM # 3 - Elaboration -- How effectively does the student elaborate on his argument?

ITEM # 4 - Resolution -- Does the student attempt to answer opposing arguments and resolve them?

TOTAL SCORE

	ITEM NUMBER			TOTAL SCORE
#1	#2	#3	#4	
	(Rating scale of -3 to +3)			

(EXPERIMENTAL GROUP)

#1	#2	#3	#4	TOTAL
1	0	2	1	4
2	2	1	-3	2
2	2	2	2.5	8.5
0	2	1	2	5
2	3	2	1	8
-1	1	0	1	1
2	2	-1	-1	2
2	2	0	1	5
0	2	0	-3	-1
2	2	2	2	8

APPENDIX EIGHT
Raw Data for HOW I FEEL ABOUT WRITING Questionnaire

Scores are listed for:

QUESTION #1: I am asked to write a short essay. I feel...

QUESTION #2: I am asked to write a free essay about anything I want. I feel...

QUESTION #3: I have been asked to enter a writing contest. I feel...

TOTAL SCORE

	QUESTIONS		TOTAL SCORE
#1	#2	#3	

(CONTROL GROUP)

#1	#2	#3	TOTAL SCORE
5	2	6	37
4	1	1	27
3	1	2	19
4	1	4	23
2.5	2	2	29.5
6	4	2	34
1	1	1	13
2	1	1	23
3.5	4	5	28.5
3.5	1	3.5	36

Raw Data for HOW I FEEL ABOUT WRITING Questionnaire, continued

Scores are listed for:

QUESTION #1: I am asked to write a short essay. I feel...

QUESTION #2: I am asked to write a free essay about anything I want. I feel...

QUESTION #3: I have been asked to enter a writing contest. I feel...

TOTAL SCORE

	QUESTIONS		TOTAL SCORE
#1	#2	#3	
(EXPERIMENTAL GROUP)			
1.5	1	3.5	22
4	2	1	21
3	1	1	17
6	1	1	25
3	1	6	23
3	2	3	31
5	1	3	24
2.5	2	2	24
3	1.5	1	26.5
1	1	1	18

APPENDIX NINE

Children's Comments on "Are There Some Things You Like About Writing?"

CONTROL GROUP

"I like writing when I want."

"I like writing about fiction."

"when I can write whatever I want. It's more fun when I write something funny."

"stories, poems"

"They're fun, easy, you learn about things."

"I enjoy writing stories (fairy tales) and poems that rhyme."

"I like letting my mind go running off to another world and get creative."

"being able to use my imagination."

EXPERIMENTAL GROUP

"You can choose whatever you want."

"writing a story"

"If you get to choose whatever you want and are able to have the knowledge"

"writing about anything you want"

"You get to write what you want and decide how long it is. You can have mystery, adventure, outdoor, etc."

"when you write something good and someone compliments you, and when you write something funny and the person reading it laughs."

"I like writing because it gives you a chance to express your feelings and thoughts and if you are a good writer, you get a good grade."

APPENDIX TEN

Children's Comments on "How Good a Writer Would You Say You Are?"

CONTROL GROUP

Comments on "Why do you think so?" from children with:

a. average ratings.

"because I'm not good at writing"

"I'm not a good writer."

"I think so because people can't really read it."

"I think so because some of my compositions are good and others (are bad)."

b. above average ratings

"above average on poems and stories, everything except spelling"

"I think I'm mostly above average because I put words into good sentences and I let my mind go creative."

"because I do not know how to put things together very well"

"Mrs. S. enjoys my stories, I think."

EXPERIMENTAL GROUP

Comments on "Why do you think so?" from children with:

a. average ratings

"because I write long stories and sometimes get very good marks"

"because I don't write so good"

"I think so because once I had written a story and it got to be published in my school Library."

"because I think I am a pretty good writer"

b. above average ratings

"I think so because I write fairly well."

"I write stories so I get better. I do well on writing tests."

c. excellent ratings

"because I love writing"

"because lots of people tell me I'm an excellent writer"

"because I write all the time and I know when to add in a touch of humor"

APPENDIX ELEVEN

<u>Children's Comments on "What Things Does a Person Have to Learn to be a Good Writer?" and "What Things Does a Person Have to Do to be a Good Writer?"</u>

"What things does a person have to <u>learn</u> to be a good writer?"

CONTROL GROUP

"brainstorm"

"learn to print"

"how to put things together well, humor, use of words"

"meanings of words, have good vocabulary"

"They have to learn how to write wisely and use good words and sentences."

"To be a good writer you need to know how to grab the reader's attention and be able to hold it all the way through what you have written."

"humor for stories, poems, mystery"

"COPS his writing"

"proper sentences"

"learn how to spell, indent, periods and capitalization"

"They have to learn to use their imagination."

EXPERIMENTAL GROUP

"how to spell, how to write well"

"five W's, brainstorming, planning, pushing"

"brainstorming, rhetorical, who you are writing to"

"The things that a person needs to know is reader, writer, purpose, to brainstorm, and the rhetorical problem, and some others."

"how to plan, push, and play"

"the three P's -- play, push, plan"

"vocabulary, mechanics, spelling"

"A person needs to learn how to read, write, and spell."

"A person needs to be smart and have a good vocabulary of words, know when to use humor and know when to be serious."

"What things does a person have to <u>do</u> to be a good writer?"

CONTROL GROUP

"how to edit, brainstorm"

"sit down and do it"

"They would have to practise writing, and really think about your topic to study."

"make a good opening to grab the reader's attention and make the story as interesting as it can be"

"He has to practise."

"They have to write good things."

EXPERIMENTAL GROUP

"write well, learn how to write, write good paragraphs, write enjoyable stories"

"plan, push, play"

"Things a person has to do to be a good writer is just use their imagination."

"He has to practise plan, push, and play."

"has to plan the writing"

"nothing, just use their imagination"

"A person has to plan his/her writing."

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