STRAIGHTIC READING INSTRUCTION AND REATTRIBUTION TRAINING FOR
STUDENTS WHO ARE "AT-RISK" OR LEARNING DISABLED

by

Nancy Gail Gordon

B.Ed., Simon Fraser University, 1990

THESIS SUBMITTED IN PARTIAL FULFILMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS

in the Faculty

of

Education

© Nancy Gail Gordon 1995

SIMON FRASER UNIVERSITY

November 1995

All rights reserved. This work may not be
reproduced in whole or in part,
by photocopy or other means,
without permission of the author.
APPROVAL

Name: Nancy Gail Gordon
Degree: Master of Arts
Title of Thesis: Strategic Reading instruction and Reattribution Training For Students Who Are "At-Risk" or Learning Disabled

Examining Committee:
Chair: Adam Horvath

Bernice Wong
Senior Supervisor

Wolff-Michael Roth
Associate Professor

Deborah L. Butler
University of British Columbia
External Examiner

Date Approved Nov 17 1995
PARTIAL COPYRIGHT LICENSE

I hereby grant to Simon Fraser University the right to lend
my thesis, project or extended essay (the title of which is shown below)
to users of the Simon Fraser University Library, and to make partial or
single copies only for such users or in response to a request from the
library of any other university, or other educational institution, on
its own behalf or for one of its users. I further agree that permission
for multiple copying of this work for scholarly purposes may be granted
by me or the Dean of Graduate Studies. It is understood that copying
or publication of this work for financial gain shall not be allowed
without my written permission.

Title of Thesis/Project/Extended Essay

Strategic Reading Instruction and Reattribution Training

For Students Who Are "At-Risk" or Learning Disabled

Author:

(Signature)
Nancy Gail Gordon
(Name)
Nov. 17, 1995
(Date)
ABSTRACT

This study investigated the effects of providing students of low reading ability with direct instruction in strategic reading and reattributioanl training for effort. There were two conditions: Experimental and control. Both focused on reading comprehension. Specifically, the experimental group focused on increasing reading comprehension through the teaching of specific reading skills. Twenty-four students received instruction in reading strategies for use in three different stages of reading: Pre, during, and post-reading. Pre-reading strategies included examining the title and headings, looking at the pictures, skimming the text, thinking about what the story might be about, and activating prior knowledge. The during reading strategies consisted of identifying the main idea, making inferences, and backtracking. Post-reading strategies included self-monitoring such as "Did I meet my goal?", "What did I learn?", "Were my predictions accurate?", "Did everything make sense?", and "Can I summarize the main points?". In addition, the students received reattribution training for effort which made the students aware of the relationship between effort and achievement. The fifteen children in the control group received practice in reading for comprehension. Instruction for the control group centred on improving reading comprehension using a content based approach. Thus, while both the experimental and the control groups focused on reading comprehension, the experimental group utilized a skills-based approach while the control group employed a content-based approach. The results of the study indicated that combining instruction in strategic reading with reattribution training for effort led to increased scores in word
identification, passage comprehension, knowledge of metacomprehension strategies, and self-efficacy.
This thesis is dedicated to my husband, Garry.
Acknowledgments

Thank you to my senior supervisor, Dr. Bernice Wong, for sharing her tremendous knowledge and expertise. Her positive nature and sincere words of encouragement meant more to me than words can express.

A sincere thank you to my colleague, Terra Higgins, for her generous contribution of time. Her congenial, willing manner was greatly appreciated.

Thank you to my husband, Garry, for his loving support and constant encouragement, and to my mother, for believing in me.
TABLE OF CONTENTS

Title Page .............................................................. i
Approval ................................................................... ii
Abstract ................................................................... iii
Dedication .................................................................. v
Acknowledgements .................................................. vi
Table of Contents ..................................................... vii
List of Tables .......................................................... x

Chapter I: Introduction ............................................. 1
   Self-Efficacy .......................................................... 1
   Self-Efficacy and Academic Achievement ................. 3
   Strategic Reading ................................................ 3
   Strategic Reading Instruction and Reading Achievement 5
   Reading Strategy Instruction and Reattribution Training 5
Hypothesis ............................................................... 6
Research Questions .................................................. 7

Chapter II: Review of the Literature ......................... 8
   Background ........................................................ 8
   The Relationship of Metacognition to Strategic Reading 9
   Reading Ability and Strategy Utilization ................. 12
   Strategic Reading Instruction and Reading Achievement 13
   Self-Efficacy and Strategic Reading ..................... 18
   Strategic Reading Instruction and Reattribution Training 20
Summary ............................................................... 22
   Remediation of Readers Who Are "At-Risk" or Learning Disabled 23
   Attribution Beliefs of Students With Learning Disabilities (LD) Versus Students Without Learning Disabilities 25
   Effective Reattribution Training For Students Who Are "At-Risk" or Learning Disabled 28
| Chapter III: | Method .......................................................... 35 |
| Subjects ......................................................... 35 |
| Experimental Design ............................................. 36 |
| Instruments ...................................................... 36 |
| Reading Comprehension ....................................... 37 |
| Word Identification ............................................ 37 |
| Reading Rate .................................................... 38 |
| Metacognitive Awareness ..................................... 38 |
| Self-Efficacy .................................................... 38 |
| Procedures ....................................................... 39 |
| Pretest Data Collection ...................................... 40 |
| Instructional Procedures ..................................... 40 |
| Reading Strategy Instruction ................................. 41 |
| Prereading Strategies ........................................ 42 |
| During Reading Strategies ................................... 44 |
| Postreading Strategies ....................................... 45 |
| Reattribution Training ...................................... 46 |
| Posttest Data Collection .................................... 49 |

| Chapter IV: | Results and Discussion ....................................... 50 |
| Preliminary Analyses ......................................... 50 |
| Posttest Analyses ............................................. 52 |
| Word Identification ........................................... 53 |
| Passage Comprehension ...................................... 54 |
| Metacognitive Awareness .................................... 54 |
| Reading Rate .................................................... 55 |
| Self-Efficacy .................................................... 55 |
| Analysis of Covariance ...................................... 57 |
| Self-Efficacy .................................................... 57 |
| Reading Rate .................................................... 61 |

| Chapter V: | Conclusions ..................................................... 66 |
| Limitations of the Study ...................................... 72 |
| Implications For Future Research ........................... 73 |
| Implications For Practitioners ............................... 74 |

References ......................................................... 78
### Appendices

<table>
<thead>
<tr>
<th>Appendix</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Sample Question From the B.C. QUIET Reading Comprehension Subtest</td>
<td>84</td>
</tr>
<tr>
<td>B</td>
<td>Sample Question From the B.C. QUIET Word Identification Subtest</td>
<td>86</td>
</tr>
<tr>
<td>C</td>
<td>Grade Level Reading Passages For Pre- and Posttesting</td>
<td>88</td>
</tr>
<tr>
<td>D</td>
<td>Metacomprehension Strategy Index (MSI)</td>
<td>96</td>
</tr>
<tr>
<td>E</td>
<td>Reading Efficacy Beliefs Inventory (REBI)</td>
<td>103</td>
</tr>
<tr>
<td>F</td>
<td>Permission from School District #37 (Delta)</td>
<td>105</td>
</tr>
<tr>
<td>G</td>
<td>Information to Parents and Parent Consent Form</td>
<td>106</td>
</tr>
<tr>
<td>H</td>
<td>Information To Be Explained To Students</td>
<td>108</td>
</tr>
<tr>
<td>I</td>
<td>Reading Strategies</td>
<td>109</td>
</tr>
<tr>
<td>J</td>
<td>Sample Narrative From the Steck-Vaughn Reading Series</td>
<td>113</td>
</tr>
<tr>
<td>K</td>
<td>Backwards Ape Learning Triangle</td>
<td>118</td>
</tr>
<tr>
<td>L</td>
<td>Reading Detective Magnifying Glass</td>
<td>119</td>
</tr>
</tbody>
</table>
List of Tables

Table 1  Means and Standard Deviations of Pretest Measures .................. 51

Table 2  Posttest Results of Univariate F Tests ................................. 53

Table 3  Means and Standard Deviations of Posttest Measures ............... 56

Table 4  ANCOVA Results for Posttest Reading Efficacy Beliefs Inventory (REBI) .................................................. 58

Table 5  ANCOVA Results for Posttest Reading Rate Results .................. 62
CHAPTER I

Introduction

Can instruction in strategic reading combined with reattribution training for effort lead to increased reading proficiency and improved self-efficacy among students with low ability in reading? The present study addresses this question.

The premise of this study rests on the findings of two main areas of research which have received a great deal of attention in the past few years: Self-efficacy and reading strategy instruction. To clarify the theoretical rationale for this study, both of these fields of research are examined in depth.

Self-Efficacy

Albert Bandura first used the term self-efficacy in 1977. He stated that "perceived self-efficacy is concerned with judgments of how well one can execute courses of action required to deal with prospective situations" (Bandura, 1982, p. 122). Self-efficacy is based on an individual’s belief in their ability to deal effectively with given situations. Perceived self-efficacy effects one’s choices of activities, amount of effort expended, and perseverance in the face of difficulty. According to Bandura (1982), people commit to those activities that they feel capable of managing while avoiding activities that they
believe exceed their ability. In the face of difficulty, people who doubt their ability to cope effectively tend to reduce the amount of effort expended or to give up completely, while those individuals who possess a strong sense of efficacy tend to increase the amount of effort they put forth in order to overcome adversity. Research has shown that self-efficacy has motivational effects that apply across a wide-range of educational settings.

Research indicates that how educators interact with their students effects the type of efficacy information perceived by the learner (Schunk, 1984), and in turn, children's perceptions of their individual abilities play an important role in their overall academic achievement. For example, while teaching the skills necessary for successful task completion, teachers can acknowledge and praise students for their effort. Teachers can also delineate the relationship between increased effort and academic achievement to students. When students believe that increased effort will result in success they are more likely to persevere longer with a given task. It is this persistence, combined with the specific knowledge necessary for task completion, that ultimately leads to increased success and increased levels of performance. Schunk emphasizes that strong achievement strivings are associated with those children who have a strong sense of self-efficacy. He further states that children who lack self-efficacy tend to avoid tasks, and to give up when faced with a challenging situation (Schunk, 1981). Fortunately, by carefully designing and controlling educational experiences, teachers are able to enhance students' self-efficacy. Such experiences tend to increase task persistence, skilful performance, and academic achievement.
Self-Efficacy and Academic Achievement. Studies have shown the existence of a relationship between self-efficacy and academic achievement (Collins, 1982; Schunk, 1982, 1983a, 1989; Schunk & Rice, 1993). Further, researchers have demonstrated that the self-efficacy of students is malleable and that it can be enhanced (Schunk, 1982, 1989). The majority of research studies to date, however, have focused on the interaction between self-efficacy and mathematical achievement. Such studies showed that increased self-efficacy can result in increased academic achievement. In contrast, research which explores the relationship between self-efficacy and reading achievement remains scarce. Understandably, the lack of research here has generated empirical interest that focuses on the hypothesis that if increased self-efficacy can indeed increase achievement in mathematics, then perhaps the same applies to reading. One method of enhancing students’ self-efficacy for reading is to teach them the strategies which proficient readers utilize. This leads to the second major body of knowledge related to this study which is instruction in reading strategies.

Strategic Reading

The concept of strategic reading is relatively new. Strategies are plans that readers use intentionally and adaptively to obtain meaning from text. Paris and Oka (1989) describe reading as the process of producing meaning from text. This meaning production is influenced by readers’ prior knowledge, their purpose for reading, the strategies available to them, and their understanding of the task. Strategic reading relies
upon an understanding of the need to regulate one's own comprehension during reading. Without this perception of the reading process, students fail to realize that the true purpose of reading is to unlock meaning from the text and as a result, their reading remains at the decoding level. With an awareness of the true purpose of reading comes an understanding that one must gain meaning from text. When the reader is not obtaining meaning from the text, the process of reading is not occurring. Under such circumstances, the strategic reader deliberately employs different corrective strategies to resolve the comprehension breakdown. They are said to be utilizing metacomprehension; the awareness that they are understanding or not understanding what they are reading, and the ability to know what to do about it. Hence, strategic readers are able to use self-regulatory mechanisms to self-monitor their reading. Thus, metacognition, an individual’s knowledge of her/his cognitive processes, is cardinal to strategic reading. Strategic reading is contingent upon thinking about one’s thinking. It is both intentional and self-regulated.

Research has demonstrated that beginning readers and readers with poor comprehension fail to use strategies as automatically or as effectually as able readers (Garner, 1987, 1991; Golinkoff, 1976; Paris & Myers, 1981; Pressley & Ghatala, 1990; Wagoner, 1983). Less skilled readers seem to lack awareness of effective reading strategies such as skimming, scanning, rereading, integrating information, planning ahead, taking notes, and making inferences (Paris, Lipson, & Wixson, 1983). Conversely, research has shown that effective readers utilize all those strategies (Paris, Lipson, & Wixson, 1983). They bring to bear on text comprehension, their prior
knowledge, purpose for reading, understanding of the task, contextual cues, and interest (Garner, 1990). Deriving meaning from the text is the main purpose of the reading process and therefore, an awareness of the need to monitor comprehension during reading is a critical marker of strategic readers.

Strategic Reading Instruction and Reading Achievement. Numerous studies have examined the relationship between strategic reading instruction and students’ reading achievement (Nolan, 1991; Paris & Cross, 1988; Paris & Oka, 1986; Rottman & Cross, 1990; Schumaker, Deshler, Alley, Warner, & Denton, 1984; Schunk & Rice, 1993; Wong & Jones, 1982). These studies will be reviewed in the next chapter. Briefly, these studies validate the positive relationship between knowledge of reading strategies and reading achievement. In general, each of the studies cited found that providing students with specific reading strategies served to improve their reading ability.

Reading Strategy Instruction and Reattribution Training

Recent research has begun to combine reading strategy instruction with reattribution training. Specifically, Borkowski, Weyhing, and Carr (1988) examined the effects of attributional retraining on strategy-based reading comprehension in learning-disabled students and found that reattribution training reinforced the maintenance and generalization of a specific reading strategy. Borkowski et al. (1988) asserts that the most effective remedial programs for students with learning disabilities combine strategy
training with attributional training.

Similar studies support Borkowski et al.'s findings (Schunk & Rice, 1987, 1991, 1993; Short & Ryan, 1984). These studies have also found that reattribution training combined with reading strategy instruction serves to enhance reading ability. From the results of these studies several important findings emerge which form the basis for the hypothesis of this study.

Hypothesis

Three key findings can be derived from the research on self-efficacy and strategic reading instruction. First, reading strategy instruction can increase reading ability amongst readers who are of low ability or who are learning disabled. Second, self-efficacy leads to students' increased effort and task perseverance in the face of difficulties. Third, strategic reading instruction can be combined with reattribution training to produce increased reading comprehension and increased self-efficacy for reading. In light of these research findings, the hypothesis addressed in this study is as follows: Instruction in strategic reading combined with reattribution training for effort will lead to increased reading proficiency and improved self-efficacy among students with low ability in reading.

This study attempts to intertwine the areas of self-efficacy and strategic reading instruction by examining their combined effects on students with low ability in reading.
Research Questions

The purpose of this study was to answer five questions:

1. What was the effect of strategic reading instruction combined with reattribution training on students’ reading comprehension?

2. What was the effect of strategic reading instruction combined with reattribution training on students’ word recognition?

3. What was the effect of strategic reading instruction combined with reattribution training on students’ rate of reading?

4. What was the effect of strategic reading instruction combined with reattribution training on students’ perceived self-efficacy for reading?

5. What was the effect of strategic reading instruction combined with reattribution training on students’ metacognitive awareness of the reading processes?
This chapter reviews the current literature which relates to the research questions posed in Chapter One, specifically, research on strategic reading and self-efficacy. Further, it will demonstrate how the reviewed research relates to the remediation of readers who are of low ability or who are learning disabled.

Background

Recent research has revealed that reading is a far more complex process than previous researchers thought. Traditional views advocated that reading was a set of isolated skills to be mastered. Contemporary theories of reading support a more cognitive, holistic view. Reading is now considered to be a multidimensional activity which involves interactive processing between the reader and the text (Dole, Duffy, Roehler, & Pearson, 1991). Currently, the concept of a strategic approach to reading appears to be firmly ensconced. According to Paris and Oka (1989), "reading is a process of constructing meaning from the ideas suggested by text according to the reader’s prior knowledge, purpose, available strategies, and understanding of the task and setting" (p. 33). Strategies can be viewed as plans that readers use deliberately, flexibly and adaptively to derive meaning from text. Strategic reading involves the constant
monitoring and evaluation of one’s comprehension in order to achieve the goals and purposes of reading (Cross & Paris, 1988). In order to become a strategic reader a student must develop two key characteristics: Metacognitive awareness and positive self-efficacy. In order to explore the concept of strategic reading it is necessary to define and elaborate on metacognition and self-efficacy.

The Relationship of Metacognition to Strategic Reading

Metacognition is a term that was first introduced by Flavell (1978) to explain the performance of children in experiments involving memory research. However, it was Brown (1980) who first related the concept of metacognition to reading. She identified the strategic components necessary for effective reading. According to Brown (1980), these elements include "predicting, checking, monitoring, reality testing, and coordination and control of deliberate attempts to study, learn, or solve problems" (p. 454). Successful reading also involves the selection, the monitoring, and the adjustment of strategies necessary to decode and comprehend written material. In its broadest sense, metacognition relates to self-regulation and can be defined as "the introspective awareness of one’s own cognitive processes" (Wong, 1986, p.12). Cross and Paris (1988) describe metacognition as "the knowledge and control children have over their own thinking and learning activities, including reading" (p. 131). Specifically, this awareness of one’s own thought processes is crucial to the process of reading. The purpose of reading is to gain meaning from text. In order to be successful with the reading process, individuals need
to be able to evaluate their comprehension of the material read. Determining if an understanding of the material read is indeed taking place requires a cognizance of one's own thought processes. Thus, metacognition is central to strategic reading. It is the thinking about one's thinking that is essential to strategic reading. In other words, strategic reading is both intentional and self-regulated.

According to Borkowski (1992), metacognitive processes are not easily acquired, nor are they the focus of regular classroom instruction. Yet, Harris and Pressley (1991) state that there is compelling evidence to support the claim that teaching specific reading strategies, or increasing metacognition about reading can significantly improve the reading ability of both learning disabled and non-learning disabled students.

Paris, Wasik, and Turner (1991) divide reading strategies into three main areas; strategies for use before reading, strategies for use while reading, and strategies for use after reading. Pre-reading strategies include skimming text, looking at pictures, and examining the title and main headings. Strategies to be utilized during reading include identifying the main idea, making inferences, using context, making predictions, and backtracking. Strategies which have been found useful upon completion of reading include self-monitoring questions designed to encourage review and reflection of the material read, and summarization of text (Paris, Wasik, & Turner, 1991). Numerous authors make the claim that these specific strategies need to be taught in a direct and specific manner (Paris, Wasik, & Turner, 1991; Borkowski, 1992; Brown, Campione, & Day, 1981; Cross & Paris, 1988; Dole, Duffy, Roehler, & Pearson, 1991; Paris & Oka, 1989). However, a variety of methods including direct explanation, reciprocal teaching,

Direct explanation involves instruction consisting of five key elements designed to:

- Describe strategies in terms that are meaningful and logical to the child; explain to the students why the strategy should be learned and the potential benefits for using it; provide for step-by-step instruction on how to use strategies; describe to students when strategies should be employed and contexts for which they are appropriate; teach students to evaluate/monitor their use of strategies (Winograd & Hare, 1988).

Reciprocal teaching is a method used to promote summarizing, questioning, clarifying, and predicting as comprehension strategies amongst students. In this method, instructor and students take turns leading a lesson on various segments of text (Palincsar & Brown, 1984).

Cooperative learning is based on the belief that children can learn from each other. It provides students the opportunity to work together in groups. Use of this method of reading strategy instruction provides students with the chance for metacognitive exchanges as the content and processes of reading are discussed (Stevens, Madden, Slavin, & Farnish, 1987). Modelling is a form of instruction in which the teacher thinks aloud while modelling task completion. This allows the covert cognitive and metacognitive processes to become overt to the students (Gelzheiser & Clark, 1991).

Cognitive coaching is a process in which the "coach" (or reading instructor) models and explains useful strategies. Some of the characteristics of cognitive coaching include: a) the setting of performance goals by both the students and the coach, b) interweaving
assessment and instruction, c) shifting responsibility for learning from the coach to the students, and c) evaluating progress according to personal standards (Paris & Oka, 1989). Peer tutoring involves one child (who has been instructed by the teacher) instructing one or more peers (Cazden, 1986). In sum, whatever method of strategy instruction is employed, effective instruction in strategic reading teaches students the cognitive processes utilized by good readers. For example, efficient readers are able to set a purpose for reading, to monitor their comprehension of the material read, and to apply debugging strategies when confronted with a difficulty (Wong, 1987, 1986).

Reading Ability and Strategy Utilization

Research in the area of reading has consistently shown that beginning readers and readers with poor comprehension do not use strategies as spontaneously or as effectively as more able readers (Golinkoff, 1976; Paris & Myers, 1981; Pressley & Ghatala, 1990; Wagoner, 1983). Also, less skilled readers lack awareness of reading strategies. Specifically, they do not skim, scan, reread, integrate information, plan ahead, take notes, make inferences and predictions, etc. (Paris, Lipson, & Wixson, 1983). Poor readers tend to perceive the purpose of reading to be decoding rather than reading for meaning (Garner, 1987; Palincsar & Brown, 1987; Palincsar & Ransom, 1988; Wong, 1987). They seem unaware that the purpose of reading is the construction of meaning. Poor readers seem to possess fewer strategies than good readers such as skimming the text, looking at pictures, examining the title and subheadings, identifying the main idea,
making inferences, inspecting text, and reviewing and reflecting after reading. They appear less able to both detect, and to deal effectively with the difficulties that they encounter in reading (Palincsar & Brown, 1987; Palincsar & Ransom, 1988). Poor readers also do not monitor their reading comprehension (Garner, 1987; Palincsar & Brown, 1987; Wong, 1987; Wong & Jones, 1982).

On the other hand, research has revealed that good readers are strategic (Paris, Lipson, & Wixson, 1983). That is, they rely on knowledge from a wide variety of sources in order to derive meaning from the text and they utilize metacognitive skills automatically during the reading process to construct meaning from the text (Wong, 1986). It is this construction of meaning that is the key objective of the reading process and as such, it is the reader's awareness of the need to monitor one's own comprehension while reading that is indicative of the strategic reader.

**Strategic Reading Instruction and Reading Achievement**

Numerous studies have described the relationship between strategic reading instruction (or metacognitive skills) and students' reading achievement. For example, Paris and Oka (1986) looked at children in an experimental curriculum that explicitly taught them to use reading strategies which were based on Informed Strategies for Learning or ISL (see Paris, Cross, & Lipson, 1984). Using this procedure, teachers informed children about the existence and the use of reading strategies. The students in this study were taught how, when, and why to use various comprehension strategies in
order to become more self-directed, independent readers. The authors found that children in these experimental classrooms made significant gains in awareness about reading and demonstrated superior strategic skills, including skimming, rereading, paraphrasing, inferring, and checking, when compared to students in control situations. Further, students in the experimental conditions of this study not only demonstrated gains in the metacognitive processes mentioned above, but also made significant gains in their comprehension when compared to students in control settings.

Other studies have found that teaching readers of poor ability (also referred to as "at-risk") or readers who were learning disabled to be more strategic enhanced reading comprehension. Wong and Jones (1982) provided readers who were learning disabled and readers of normal ability with a five-step self-questioning procedure in which students learned to monitor their understanding of text. Students were first taught how to identify main idea until they achieved 80% accuracy over three days. They then received instruction, modelling, and corrective feedback concerning the following steps: 1) locating and underlining main idea information; 2) generating a question about this information; 3) determining the answer to this question; and 4) reviewing the questions and answers to evaluate the information they provided. Students were then assigned to a prediction or no prediction group. Students in the prediction group were asked to identify parts of a passage that they felt were important enough to be included in a test of comprehension. Students in the no prediction group were asked to read the same material for the purpose of evaluating the quality of the writing. Students in both groups were asked to record the amount of time they spent studying and to recall as much as possible.
about the passage. Results of this study showed that strategic metacognitive training significantly improved the awareness of textual cues and reading comprehension of students who were learning disabled. To elaborate, using the self-questioning training to monitor reading comprehension, students who were learning disabled significantly improved their awareness of important textual elements. Their ability to frame questions of the important elements also improved. Students with learning disabilities predicted more important idea-units, answered more comprehension questions correctly, and recalled more than did control students with learning disabilities. Interestingly, the self-questioning procedure did not substantially improve the normally achieving readers' metacognition or their comprehension. The authors explained that normally achieving readers habitually monitor their comprehension and that additional training likely interfered with what they were already doing spontaneously and automatically.

Another study by Schumaker, Deshler, Alley, Warner, and Denton (1984) looked at the metacognitive processing of junior high and high school students. These authors worked with students who had been identified as learning disabled. First, they evaluated how these students approached reading materials. A discussion with the students ensued which centred around their failure to utilize a strategic approach to their reading. The next step of intervention consisted of the teacher describing and modelling three important strategies: 1) surveying the material for the purpose of familiarizing oneself with the main ideas and the structure of the chapter; 2) reading each of the end-of-the-chapter questions to determine the key facts to be learned; and 3) re-reading the chapter in order to identify key information about which to generate questions. Finally, students practiced the
strategies using material written at an instructional reading level and material written at grade level. The teacher provided feedback while the students practiced the strategies. Results of this study demonstrated that students mastered the strategies presented in instructional reading level material and applied them independently to grade level reading material. Subsequently, students’ grades on test of grade level reading material improved from failing or below average to a "C" or above.

Cross and Paris (1988) examined the relation between children’s metacognition and reading comprehension. In this study, students in the third- and fifth-grade were given an experimental curriculum, Informed Strategies for Learning (ISL). This curriculum was designed to increase students’ awareness and use of effective reading strategies by directing students’ attention to the material to be learned, generating high levels of student involvement, and providing frequent practice and immediate feedback. Comprehension instruction was designed to stimulate awareness of declarative, procedural, and conditional knowledge while teaching students how to evaluate, plan, and regulate their own comprehension in a strategic manner. Results showed that in both grades, children in the experimental conditions demonstrated more significant gains in metacognition and the use of reading strategies than did students in the control settings.

Rottman and Cross (1990) examined the effects of a classroom-based metacognitive reading program which utilized a modified version of Informed Strategies for Learning (ISL). The participants in the study were third and fourth grade students with learning disabilities in reading. Rottman and Cross found that students increased in both reading performance and strategy awareness from pre- to posttesting. According to
these authors, "this study provides preliminary evidence that a metacognitive reading program can be used with children with learning disabilities to improve their awareness about reading and their comprehension skills" (Rottman & Cross, 1990, p. 270).

A comparable study, done by Nolan (1991), examined the effectiveness of providing poor readers in grades six, seven, and eight with the strategies of self-questioning and prediction. The results of the study indicated that students who received the self-questioning and prediction strategies scored significantly higher on measures of reading comprehension. Interestingly, the greatest increases in reading comprehension scores were for those readers who were initially poorest in reading. This supports Wong and Jones’ (1982) supposition that more successful readers likely monitor their comprehension spontaneously and therefore benefit less from the direct teaching of self-monitoring reading strategies.

Finally, a study done by Schunk and Rice (1993) investigated the effects of strategy verbalization and strategy value feedback on children’s reading. Children were divided into one of four treatment groups; verbalization only, feedback only, verbalization plus feedback, and no verbalization or feedback. The verbalization training consisted of a five-step metacognitive reading strategy designed to foster comprehension. The five-step procedure included the following steps: 1) Read the questions; 2) try to identify the main idea; 3) think about the commonalities of the main details; 4) think of a good title for the passage; and 5) backtrack to locate the answers to questions. Results of this study indicate that students who received the verbalization strategy combined with the feedback on strategy value demonstrated higher scores on measures of both strategy use
and reading comprehension.

These studies demonstrate the benefits of strategic reading instruction on students' reading achievement. However, they only address the metacognitive component of the successful reader. As stated previously, positive self-efficacy is a critical characteristic of the successful strategic reader. In order to completely realize why this is so, it is necessary to fully understand the construct of self-efficacy.

**Self-Efficacy and Strategic Reading**

Self-efficacy is a term which was first coined by Albert Bandura in 1977. According to Bandura, "perceived self-efficacy is concerned with judgments of how well one can execute courses of action required to deal with prospective situations" (Bandura, 1982, p. 122). To elaborate, self-efficacy is concerned with judgments about one's competency to organize and perform various courses of actions in order to deal with situations which may be ambiguous, unpredictable, and stressful. An individual's perceptions of self-efficacy have profound effects on one's choices of activities, amount of effort expended, and perseverance in light of obstacles or difficulties. Bandura states that "people avoid activities that they believe exceed their coping capabilities, but they undertake and perform assuredly those that they judge themselves capable of managing" (Bandura, 1982, p. 123). Further, "when beset with difficulties people who entertain serious doubts about their capabilities slacken their efforts or give up altogether, whereas those who have a strong sense of efficacy exert greater effort to master the challenges"
(Bandura, 1982, p. 123). Because research has demonstrated that self-efficacy, (or the belief that one can cope effectively with a given situation), has motivational effects it has been applied to a variety of domains including children’s acquisition of cognitive skills.

Previous research has demonstrated that the context in which educational practices occur can influence the type of efficacy information conveyed to the learner (Schunk, 1984). Children’s perceptions of their capabilities have an important effect on their achievement. When students believe that increased effort will lead to success they are likely to persist longer at the task and ultimately increase their level of performance. According to Schunk (1981), students who have a strong sense of efficacy in a given subject matter would be expected to exhibit strong achievement strivings. In contrast, students who perceive themselves as ineffectual would likely avoid achievement tasks or engage in them halfheartedly. These students would give up readily in the face of difficulty (Schunk, 1981). This implies that experiences contrived to improve self-efficacy should also enhance persistence, skilful performance, and ultimately academic achievement. Thus, self-efficacy can be seen to have a direct effect on the level of students’ skill performance.

Early studies validated the relationship between self-efficacy and academic achievement (Collins, 1982; Schunk, 1982; Schunk, 1983). Moreover, Schunk (1982) showed that it is possible to enhance or foster the self-efficacy of students. However, the majority of research which has examined the interaction between self-efficacy and achievement has focused on mathematical achievement. Although it has been shown that increased self-efficacy can lead to increased academic achievement for mathematics, little
empirical research has been conducted on the connection between self-efficacy and
reading achievement. Since increased self-efficacy in students has been shown to
improve their mathematics achievement, perhaps the same might hold true for reading
achievement. Conceivably by enhancing a student's self-efficacy it may be possible to
improve their reading achievement. One way to enhance a child's self-efficacy for
reading is to instruct them in strategies which promote successful reading. This notion
has been fruitfully tested in a study by Borkowski et al. (1988) in which reading strategy
instruction was combined with reattribution training.

**Strategic Reading Instruction and Reattribution Training**

Borkowski, Weyhing, and Carr (1988) studied the effects of attributional
retraining on strategy-based reading comprehension in students with learning disabilities.
In this study, seventy-five upper elementary students were assigned to one of four
treatment groups: reading strategies plus complex attribution, reading strategies plus
attribution, attribution control, and reading strategies control. Borkowski et al. found
that attributional training enhanced the maintenance of the summarization strategy and
selectivity facilitated generalization. These authors suggested that "teaching reading
strategies alone, or emphasizing the role of effort in isolation, will not prove sufficient
for educating LD students" (Borkowski et al., 1988, p. 52). They further suggest that
"motivational training in combination with skill training, designed to reshape attributional
beliefs about the causes of reading successes and failures, may be the key to resolving
some of the dilemmas encountered in strategy transfer research with LD students" (Borkowski et al., 1988, p. 51). Similarly, Reid and Borkowski (1987) emphasized the importance of both motivation training and cognitive training in ensuring strategy persistence, maintenance, and generalization. It appears that training in metacognitive processes and reattribution training enhances the maintenance and generalization of strategy training (Paris & Oka, 1989).

Another study by Schunk and Rice (1987) combined strategy instruction with attribution training. In this study, students in the fourth and fifth grade were taught a five-step metacognitive strategy designed to help them locate the main idea. Students were assigned to one of four conditions which provided them with either specific strategy value feedback, general strategy value feedback, specific plus general strategy value feedback, or no strategy value feedback. The children in each condition were taught to first ask themselves "What do I have to do?". They were then instructed to: 1) Read the question; 2) read the passage to find out what it was mainly about; 3) look for common details within the passage; 4) think of a good title for the selection; and 5) if unable to answer a question, reread the text. They then received strategy value information based on one of the conditions described above. As well as receiving information about the value of reading strategies for improving reading comprehension, students were also encouraged to attribute their success to effort. Following training, Schunk and Rice found significant improvement in students' reading comprehension as well as in their self-efficacy for those students who received the most feedback regarding the value of strategies.
Similarly, Short and Ryan (1984) utilized story grammar and attribution training for effort to instruct good and poor readers in the fourth grade. Students were divided into three treatment groups: Attribution training alone, story grammar training alone, and a combination of both types of instruction. The authors found that the conditions where students received story grammar training alone or story grammar training with attribution training served to improve both metacognition and reading. Attribution training alone did not serve to increase performance.

Summary

Several key findings can be derived from the research on self-efficacy and strategic reading instruction. First, it appears that instruction in reading strategies can serve to improve reading ability and comprehension, particularly amongst readers who are of low ability or are learning disabled. Second, self-efficacy has been shown to lead to students' increased effort and task perseverance in the face of difficulties, resulting in increased academic achievement. Finally, and most importantly, it appears that strategic reading instruction can be combined with reattribution training to produce increased reading ability and increased self-efficacy in reading in trainees. The last finding appears to be critical in providing successful remediation to readers who are "at-risk" or learning disabled.
Remediation of Readers Who Are "At-Risk" or Learning Disabled

From the research cited it is evident that teaching students to become strategic, self-regulated readers is a complex, demanding task which requires an instructional approach with dual components: Metacognitive strategies in reading and reattribution training. Metacognitive tools are necessary to enable students to become strategic readers, while re-shaping their attributions is necessary to increase their self-efficacy for reading. According to Borkowski (1992), with careful instruction, students come to realize the importance of being strategic. Children come to understand that the purpose of reading is the construction of meaning from text and not merely the decoding of individual words. As students become more successful with the reading task, feelings of self-efficacy begin to emerge and they learn to attribute their successful academic outcomes to effort (and possibly ability) instead of luck or ease of the task. Thus, as students become more practiced in using metacognitive strategies they realize the full benefits of adopting a strategic approach to their reading. There appears, then, to exist a reciprocal interaction between self-efficacy and reading achievement. In fact, self-efficacy and reading achievement appear to be mutually beneficial. Students who are taught strategies which lead to successful reading, approach the reading task in a more confident manner and have a much greater chance of meeting with success. When students attribute this success to the use of the appropriate strategies and effort, their self-efficacy is fuelled and as a result, they are more likely to approach reading with a higher degree of confidence, more effort, and a tendency to persevere longer in the face of
difficulty than students who doubt their reading capabilities. It is precisely this confidence, effort, and perseverance which will help them to ultimately achieve their academic goals. Goal achievement enhances their belief in their ability to succeed (i.e., their self-efficacy) and thus they continue to approach future reading tasks with a strong belief in their ability to be successful. Such is the reciprocal nature of self-efficacy and strategic reading.

On the other hand, students who doubt their capabilities tend to approach reading with hesitation, a sense of self-doubt, and a tendency to give up when difficulties are encountered. Their low frustration tolerance for difficulties combined with an unhelpful coping strategy very often leads to failure in the face of challenges and as a result, their sense of self-efficacy, rather than being enhanced, is seriously decimated. They approach reading with hesitancy and with a belief that they cannot or will not be successful. The beneficial reciprocity between self-efficacy and strategic reading is never realized. Therefore, self-efficacy can be seen to have a direct effect on reading ability.

Nevertheless, this may be a rather simplistic view of the relationship between self-efficacy and reading achievement because many other variables affect skill development such as the cognitive abilities of the student, the level of difficulty of the reading material, the value that the student places on learning to read, the expected outcomes that the student holds for the given reading task, or the accumulation of successes during the acquisition of reading. It does, however, serve to demonstrate how the two concepts can be seen to interrelate. It is this reciprocal relationship between strategic reading skills and self-efficacy which necessitate a two-fold approach to remediation of students with
learning disabilities. Were it not for the singularly maladaptive attributional beliefs of readers who are poor or learning disabled (Bryan, 1991), providing intervention would be a straight-forward task. It is important to highlight distinctions between the attributional beliefs and the metacognitive strategies of students with learning disabilities (LD) and students without learning disabilities.

**Attribution Beliefs of Students With Learning Disabilities (LD) Versus Students Without Learning Disabilities**

The major distinction between the attribution beliefs of students with LD and students without LD is that students with LD are less likely than students without LD to attribute task results to their effort (Borkowski, Estrade, Milstead, & Hale, 1989; Butkowski & Willows, 1980; Pearl, Bryan, & Donahue, 1980). Students without LD tend to consider achievement outcomes to be within their own control; that the consequences of their actions are a result of their own effort and ability. When these children succeed, they attribute their success to internal causations such as ability or effort. When unsuccessful, these children tend to depersonalize their failure with statements like "I'll try harder next time". Students with learning disabilities, however, tend to believe that achievement outcomes are beyond their control. They believe that the consequences of their actions are due to external forces such as luck, the power of others, or task difficulty. Children with LD tend to ascribe success to external factors such as luck, and failure to internal factors such as ability (Borkowski, Estrade, Milstead, &
As a result, students with LD often fail to achieve a sense of pride when they succeed, and they tend to feel mortified and humiliated when they fail. Because of these feelings, children with LD may become unwilling to attempt academic tasks and when they do undertake an activity, they may work in a disinterested, apathetic fashion (Thomas, 1979). Students with LD who fail to perceive that their own effort can influence their academic outcomes develop an approach to their schooling that has been described as learned helplessness (Abramson, Seligman, & Teasdale, 1978). These students, after repeated encounters with failure, come to believe that they are incapable of achieving their goals. It is important to bear these significant differences in mind when designing remedial reading programs for these students. Not only is it important to include both metacognitive strategies and attributional factors in intervention programs for readers who are "at-risk" or learning disabled, but one must also be highly selective in the type of reattribution training provided to these students (i.e., attributional feedback for effort or for ability). For example, students who have LD first need to receive attributional feedback for effort in order to help them to understand that with hard work, they are capable of performing and successfully completing tasks. Feedback for effort (combined with specific instruction in the strategies necessary to successfully complete the task) allows children the opportunity to experience greater success with learning. As students come to realize success, they begin to develop a sense of competency, and begin to understand that they have the knowledge and skills necessary to be successful learners. At this point, it becomes necessary for the instructor to transfer from attributional feedback for effort to feedback for ability so that the students do not
begin to question/doubt their ability. If students are continually told that they must work hard at a given task, they might come to believe that they do not possess (or are not developing) their ability. A critical point to bear in mind, however, is that attributional feedback for ability must be utilized in careful conjunction with remedial materials which are at the correct level of difficulty for the students involved in remediation. If the work assigned is too difficult, students will be unable to meet with success because they will lack the ability necessary to be successful learners. This is true of students who are learning disabled as well as those students who are not.

A second important distinction between students with LD and students without LD relates to apparent differences in the attributional beliefs between boys with LD and girls with LD. Girls with LD are more likely to attribute their failures to lack of ability (an internal causation) when compared to their non-learning disabled counterparts. Also, girls with LD demonstrated much less task perseverance when compared to girls without LD. On the other hand, boys with LD are more likely to attribute failure to external factors (such as the difficulty of the task or luck) than boys without LD (Licht, Kistner, Ozkaragoz, Shapiro, & Clausen, 1985). Thus, it is important for the remedial reading teacher to bear these sex differences in mind when providing remedial reading programs to students who are either "at-risk" or LD. Several research findings serve to further expand upon the importance of the attributions of students who are "at-risk" or have LD.
Effective Reattribution Training For Students Who Are "At-Risk" or Learning Disabled

Research has investigated the types of reattribution training which are most effective for students with LD. According to Kistner, Osborne, and LeVerrier (1988), children with LD who were able to attribute their failure to a lack of sufficient effort demonstrated greater academic progress over a two year period than students who attributed failure to insufficient ability. Similarly, Borkowski et al. (1988) found that students with LD who received training in summarization skills combined with attributional retraining for effort demonstrated roughly a 50% improvement in their reading ability (compared to a 15% improvement for control subjects). These authors make the point that strategy instruction alone is not an effective means of teaching students who are LD. Students with LD typically have negative attributional beliefs and as a result, reattribution training becomes a critical element of an effective remedial reading program. When providing reading intervention programs for students with LD it is important to train them to ascribe their failures to malleable factors such as effort rather than to more fixed factors such as ability. Further, it is extremely important for the teacher to ensure that the reading task is at the correct level of difficulty so that the learner does, in fact, meet with success when increased effort is exerted.

In another study, Schunk and Rice (1986) explored how the sequence of ability and effort attributional feedback influenced students' reading comprehension, attributions, and self-efficacy. They found that providing students with ability feedback for later successes over an extended period of time led to higher ability attributions and self-
efficacy than students who received only effort feedback over the same time period. The authors state that "attributing children’s early successes to effort can raise self-efficacy, because effort feedback implies that children can continue to succeed with hard work; however, effort feedback does not promote ability attributions or self-efficacy as well as ability feedback" (Schunk & Rice, 1986, p. 63). The implication here for the teaching of students who are both "at-risk" and have LD is that while effort feedback may be beneficial initially in the development of positive self-efficacy, at some point a transition must occur from effort feedback to ability feedback. Initially, attributional feedback for effort would provide students with the understanding that effort is indeed a contributing factor to their reading success. They would begin to feel successful and come to understand that they were developing skills. As they came to realize that they were developing skills, they would begin to discern that they had the ability necessary to improve their reading. If a transition of attributions did not occur, students would begin to question their ability. They might begin to ask themselves "Why do I still need to try so hard? I guess I must not be good at this task." Students apparently need more than feedback for effort in order to develop attributions for ability (Schunk & Rice, 1986).

Related to this research is the reality that children’s interpretations of attributional feedback change with development. There is some research to indicate that children’s interpretation of attributional feedback is associated with developmental stages. For example, Pearl, Bryan, and Donahue (1980) found that the higher the grade level the more likely children were to believe that their failures were due to a lack of ability and effort. Further, older children perceived task difficulty to have more influence on
successes and failures than younger children. Also, children in the lower grade believed luck played a greater role in their successes than older children (Pearl et al., 1980).

Nicholls (1978) demonstrated that the concept of ability begins to develop at approximately age nine or grade three. At earlier ages children tend to view effort as the prime cause of outcomes and ability-related terms as closely associated with effort. Thus, it appears that how students interpret attributions will depend greatly on their particular stage of development. According to Schunk, "ability feedback promotes self-efficacy and achievement more than effort feedback once children begin to form a distinct conception of ability" (1983a, p. 56). The implication for planning a remedial reading program for a reader who is "at-risk" or has LD is that the teacher must provide attributional feedback that is developmentally appropriate for the learner. For example, effort attributional feedback may be more appropriate to use with younger students because they may not have yet developed the concept of ability. Another key point to bear in mind when planning a remedial reading program is that the material selected must be of the correct level of difficulty for use with the child. The material selected should be within the child's zone of proximal development or, the area between a learner's independent level and their instructional level of difficulty (Vygotsky, 1962). For example, a grade four student of low ability in reading might be capable of independently reading material designed for the beginning of grade three. This student's instructional level of difficulty then, might be reading material which was at the mid grade three level. If the material selected is too difficult, students will lack the ability to be successful learners and as a result, their self-efficacy will be seriously undermined or perhaps
completely decimated. The selection of materials for use in the remediation of students who are "at-risk" or learning disabled is of key importance and must be done with utmost care and caution because materials which are too difficult for students have the potential to undermine or even destroy the child's self-efficacy.

The above studies underscore the levels of careful consideration involved in the remedial reading teacher's selection of the most effective attributional retraining program for the reader who is "at-risk" or LD. However, these unique students also appear to differ from normal students in their ability to self-regulate their learning. Below, some of the differential characteristics of the metacognitive strategies for students who are "at-risk" or LD are examined.

**Deficient Metacognitive Strategies as a Characteristic of Students Who Are "At-Risk" Or Learning Disabled**

One major difference suggested by research is that students with LD demonstrate deficits in the executive processing skills required for successful acquisition, combination, and integration of new knowledge (Borkowski, Estrade, Milstead, & Hale, 1989; Paris, Wasik, & Turner, 1991; Wong, 1986). Students who are "at-risk" or have LD appear to be inactive learners who do not actively monitor their learning. Strategy selection, strategy implementation, and comprehension monitoring pose difficulties for students who are "at-risk" or have LD and as a result, successful reading is problematic. The metacognitive skills which are essential to successful reading differentiate significantly
between readers who are successful and those who are not (Wong, 1991). Because it appears that students who are "at-risk" or have LD demonstrate unspecified deficiencies in their metacognitive skills on a wide variety of tasks (including reading), training designed to improve executive processing becomes imperative in a successful remedial reading program. Research has demonstrated that students who have LD can be trained to self-monitor their learning (Wong & Jones, 1982). According to Wong (1991), the key metacognitive components of academic remedial programs include self-monitoring, self-evaluation, predicting test questions, and self-statements designed to reduce test anxiety. Thus, students who are "at-risk" or have LD need not only to learn how to learn but also how to self-monitor their learning.

A second finding related to the above is the point that students who are "at-risk" or have LD often fail on tests of transfer and generalization. Research has demonstrated that despite careful teaching of specific strategies, the generalization of strategies to new situations is difficult for students who are "at-risk" have LD (Borkowski, Estrade, Milstead, & Hale, 1989; Borkowski, Weyhing, & Turner, 1986). This is believed to be due to their lack of understanding of the relationship between effortful, strategic behaviour and successful performance (Borkowski, Weyhing, & Turner, 1986). The implication here for the remediation of students who are "at-risk" or have LD is that teachers must provide students with direct knowledge concerning when and why specific self-regulating strategies might be beneficial to their performance. If a student is taught a strategy and yet has no sense of when to apply that strategy then they will not benefit from having learned that information. More importantly, their efficacy will not be
enhanced (even if the strategy has been taught in conjunction with attributional training) because they will not be able to use the strategy successfully. This will result in feelings of failure and inadequacy. Therefore, it is important for teachers to explicitly teach for transfer of a strategy (Garner, Alexander, & Hare, 1991; Wong, 1991). By teaching directly for transfer when incorporating metacognitive strategy knowledge with attributional feedback students will not only have a better chance to maintain the strategy, but they will also have a better understanding of when to generalize the strategy to new situations. Wong (1986) succinctly states that "metacognition and motivation appear to be equal partners in trainees' strategic maintenance and in particular, generalization" (p. 24).

Summary

In summary, the literature on metacognition and self-efficacy serves to emphasize the interrelation between the two concepts of metacognition and self-efficacy. Borkowski et al. (1989) suggested that every important cognitive act has motivational consequences which serve to construct and shape a student’s self-efficacy. Thus, metacognition and self-efficacy, at least as conceptualized by Borkowski et al., may well be inseparable entities. It appears to be impossible to address one without impacting the other. The implication for the remediation of readers who are "at-risk" or have LD is clear. Because strategic reading necessarily relies on both metacognition and self-efficacy, the effective remedial reading program needs to include both the metacognitive component of
the reading process (i.e., reading strategies) and the attributional component (positive self-efficacy for reading). Further, both the metacognitive and the attributional components of the planned intervention must be designed to meet the specific needs of the learner. Specifically, the effective remedial reading program is carefully planned, constantly assessed and altered, and tailored to meet the individual metacognitive and attributional needs of the learner. Reid and Borkowski (1985) make the important point that "commonly observed reading problems must be addressed simultaneously as a motivational problem and as a deficit in strategy skill" (p. 135). The effective remedial reading teacher bears this important point in mind when addressing the individual needs of students who are "at-risk" or have LD.
CHAPTER III

Method

Subjects

The students in this group were 39 students in grades four to seven drawn from two elementary schools within the Delta School District. The 25 boys and 14 girls ranged in age from 8 years 10 months to 13 years 6 months ($M = 10$ years $8$ months). Both schools participating in this study are situated in areas of diverse socioeconomic standards varying from low to middle-class and as such, the students in this study were socioeconomically diverse. Students received regular instruction in remedial reading. They were accepted into the instruction if they obtained classifications of below average or significantly below average in either the Word Identification or the Passage Comprehension subtests of the British Columbia Quick Individual Educational Test (B.C. QUIET). Eight students, however, received remedial reading support even though they obtained classifications of average in both of those subtests. These students had a history of reading difficulties and therefore, their classroom teachers requested that they receive on-going support with their reading.

Separate schools were chosen for the experimental and control groups in order to prevent teachers and students from sharing their knowledge gained from training with the control group. The experimental group consisted of 24 students (15 boys and 9 girls)
with a mean age of 11 years 6 months. The control group was comprised of 15 students (10 boys and 5 girls) with a mean age of 10 years 4 months. Of the 39 boys and girls in the study, there were five boys and five girls in grade four, nine boys and two girls in grade five, four boys and four girls in grade six, and seven boys and three girls in grade seven.

Experimental Design

A quasi-experimental design with two groups and pre- and posttests was utilized. There were two experimental conditions: A treatment group and a control group. Multiple dependent measures and a covariate leading to an ANCOVA was used. Qualitative and quantitative data were collected, with the latter serving a complementary function to the former. Qualitative measures were in the form of video tapes. The experimental groups were filmed three times during the course of treatment; on November 16, 1994, on February 15, 1995, and on April 20, 1995. References to these video tapes will made in Chapter IV.

Instruments

The pre- and posttest assessment battery was designed to assess students' reading comprehension, word recognition, reading fluency/rate of reading, metacognitive awareness of reading strategies, and self-efficacy for reading. The B.C. QUIET was
used to assess reading comprehension and word recognition skills (Wormeli, 1983). Informal grade level reading passages were used to determine students’ reading fluency/rate of reading. Metacognitive awareness for reading was evaluated using the Metacomprehension Strategy Index (Schmitt, 1990). The Reading Efficacy Beliefs Inventory was used to measure students’ self-efficacy for reading.

**Reading comprehension.** The reading comprehension subtest of the B.C. QUIET was the selected measure. The B.C. QUIET is a standardized test normed for pupils in the province of British Columbia. The reading comprehension subtest consists of a cloze activity. On this subtest, students are asked to read a short passage with a key word missing and then to supply a word which would fit in the blank and make sense (Appendix A). This subtest was administered according to the testing manual. Standard scores and percentile ranks were calculated for individual students as per the instructions in the manual. Reliability for this subtest is as follows; .86 for grade four, .89 for grade five, .86 for grade six, and .88 for grade seven (Wormeli, 1983).

**Word Identification.** The word identification subtest of the B.C. QUIET was used for this measure. This subtest consists of words presented in isolation for students to read aloud (Appendix B). This subtest was administered as per the instructions in the testing manual, and standard scores and percentile ranks were calculated for each student according to the instructions in the manual. Reliability measures for this subtest are; .93 for grade four, .93 for grade five, .90 for grade six, and .93 for grade seven (Wormeli,
Reading rate/fluency. An informal assessment was used to calculate a reading rate for each student in the study. Four reading passages were selected, one for each grade level represented in the study (Appendix C). Individual reading rates were calculated based on the number of correct words per minute.

Metacognitive awareness. The Metacomprehension Strategy Index (MSI) was selected to measure students' metacognitive awareness for reading (Appendix D). This measure consists of twenty-five, four-option multiple choice questions which probe reading strategy awareness before reading, during reading, and after reading. Scores on this measure consisted of a total number of correct responses out of a possible twenty-five. The MSI is a reliable measure of metacomprehension strategy awareness with an internal consistency value of .87 (Schmitt, 1990). Questions on the MSI were read aloud to the students in order to control for the detrimental effects that reading difficulties/disabilities might have had on the results.

Self-efficacy. Self-efficacy for reading was measured by the Reading Efficacy Beliefs Inventory (REBI) (Appendix E). This measure was based on the Science Teaching Efficacy Beliefs Instrument (STEBI) which was designed by Riggs and Enochs (1990). The REBI was developed by the author of this study. A pilot study in the same population yielded a reliability coefficient of alpha = 0.85. Thus, it is reliable as a
measurement tool for evaluating reading efficacy. The REBI utilizes a five-point Likert scale format. Possible responses range from "strongly disagree" to "strongly agree". Scoring on this measure is achieved by allocating a score of five to each positively worded item receiving a "strongly agree" response, a score of four to each positively worded item obtaining an "agree" response and so on, such that each positively worded item which receive a "strongly disagree" response would obtain a score of one. Negatively worded items were scored in the reverse order so that "strongly agree" responses received a score of one, "agree" responses received a score of two, etcetera, with a response of "strongly disagree" receiving a score of five. All items with a response of "don't know" obtained a score of three. Items were then summed to calculate a total score of self-efficacy for reading for each participant. This total score on the REBI was used as a measure of self-efficacy for reading. In order to eliminate the confounding variables of reading difficulties/disabilities, all questions on the REBI were read aloud to the students.

Procedures

Permission for the study was first obtained from School District #37 (Delta) (Appendix F). Parents were informed of the rationale for the study in writing before the experiment commenced and written permission for their children to be included was obtained for all of the students involved (Appendix G). Students were informed that the study would be taking place, and advised that participation was non-compulsory
The study commenced October 1, 1994, and continued until April 30, 1995.

Pretest Data Collection

All pretesting instruments used with the treatment group were administered by a Special Education Assistant (SEA) in order to avoid bias on the part of the researcher. For the control group, pre-testing instruments were administered by the learning assistance teacher and the vice-principal of the alternate elementary school.

Pre-testing took place during the month of September, 1994. Data was collected over a fifteen day period. All testing was conducted during school hours, between 9:00 a.m. and 3:00 p.m. Both the B.C. QUIET and the reading rates were administered on an individual basis while the REBI and the MSI were group administered.

Instructional Procedures

The instructional procedures used with the control group were based on cooperative planning between the classroom teacher and the learning assistance teacher. Reading instruction was based on the subject content areas covered by the classroom teacher. For example, if the class was studying a science unit on astronomy, the learning assistance teacher might utilize material on the stars to teach reading. The learning assistant also supported the control students with their classroom novel studies and
research projects. Thus, the learning assistance program for the control group was strongly influenced by what the classroom teachers were covering. Learning assistance for these students consisted of classroom subject support with an emphasis on content vocabulary development and reading comprehension.

Intervention for the treatment group also focused on vocabulary development and reading comprehension. A two-fold approach to instruction was employed. Students received reading strategy instruction as well as reattribution training for effort. It was necessary, due to the number of students in the treatment group, to organize students by grade for instructional purposes.

**Reading Strategy Instruction**

Students in the experimental group received direct instruction, four times per week, in the use of reading strategies. The strategies taught were divided into three major categories: (1) Prereading strategies; (2) during reading strategies; and (3) postreading strategies. The specific prereading strategies included examining the titles and headings, looking at the pictures, skimming the text, thinking about what the story might be about, and activating prior knowledge. Strategies focused upon during reading included identifying the main idea, making inferences, and backtracking. Postreading strategies included self-monitoring such as "Did I meet my goal?", "What did I learn?", "Were my predictions accurate?", "Did everything make sense?", and "Can I summarize
the main points?" (Paris et al., 1991). Concurrently, a K-W-L approach to reading was emphasized. Students were taught to ask themselves "What do I know?", "What do I want to learn?", and "What did I learn?" (Paris et al., 1991) (Appendix I).

The reading strategies were initially modelled by the teacher using Steck-Vaughn reading materials. Students in grades four and five read passages in the "Great" Collection (Great Collection, 1990) and the students in grades six and seven read narratives from the "Headlines of the Century" series (Headlines of the Century, 1994) (Appendix J). These materials were chosen because they employ moderately challenging vocabulary yet are of high-interest due to their real-life nature. Each article was read over a two-day period. On the first day of reading an article, the key vocabulary from the passage was presented to the students. Vocabulary words were printed on the blackboard with regular phonemes and morphemes, i.e., double vowels, r controls, digraphs, diphthongs, prefixes, suffixes, etc., marked in coloured chalk. The purpose of this approach was to draw students' attention to sound-symbol relationships in order to improve their word attack/recognition skills. The highlighted phonological sounds were reviewed with the students before they were asked to pronounce the word. Words were then said aloud by the students, and the meaning of each word was discussed. Once the vocabulary from the story had been examined, predictions were made as to what the article might be about. Students were then taught pre-reading strategies.

Prereading strategies. The first pre-reading skill emphasized was examining the title and headings of the story. Students read the title of the article aloud and were then
asked to make a prediction as to the nature of the article. Students perused the article, reading and discussing the main headings present in the story. They were asked to try to explain what each section of the article might be about, based on the words in the heading. After reviewing the title and headings of the article, students were asked to refine their predictions as to what the story might be about.

The second pre-reading strategy stressed was examining the pictures in the article. The teacher guided the students through the article, as they scrutinized each picture in detail. They were asked to describe the details of each illustration and to read the accompanying captions. Based on the information obtained from the illustrations, students were once again asked to refine their predictions as to what the story would be about.

The next pre-reading strategy taught was skimming the text. Students were told to skim, or to glance over, the article in order to discover important details such as dates, names, places, numerical facts, etc. The facts discovered by the students were shared orally with the group. Students then further clarified their predictions based on the information obtained from their skimming of the text.

Finally, before reading the article, students were asked to think about information that they already knew that might relate to the text. They were encouraged to utilize their prior knowledge. Students' previous knowledge was shared aloud with the group so that peers could come to understand how prior knowledge can relate to new information being learned. At this point, the first question of the K-W-L approach was introduced. Students were taught to ask themselves "What Do I Know?". Students brainstormed
During reading strategies. The pre-reading strategies cited above were all taught/reviewed on the first day of reading the article. On the second day, during reading strategies and after reading strategies were emphasized. Before students began reading the article, they were instructed to ask themselves the second question of the K-W-L strategy which was "What Do I Want to Learn?". Students set purposes for their reading by answering this question orally within the group.

The during reading strategies stressed on day two of reading the article included identifying the main idea, making inferences, and backtracking. While reading the article aloud, students were stopped at "teachable moments" in the text and asked to identify the main idea of a particular section of the story. Similarly, when an opportunity to practice inferencing arose in the story, students were led through the thought processes necessary to make the inference. This was achieved initially by the teacher modelling her own thought processes aloud. As time passed, the students were asked to make the inference and then to describe to their peers the thinking strategies required to do so. The skill of backtracking was taught by the teacher asking questions which required students to look back through the text in order to find the answer. In the beginning of the study, many of the students seemed to think that they were not allowed to look back in the text to answer comprehension questions or that backtracking was somehow wrong. Once this misconception was eradicated, many of the students’ backtracking skills improved significantly. In the early stages of teaching, it was sometimes necessary to provide
prompts so that the students could backtrack successfully. To illustrate, sometimes the teacher would tell students the page where they should look for the answer, or that the answer could be found before the part in the story were a particular event occurred.

Postreading strategies. Once students had finished reading the article out loud, they were taught strategies for after reading. These strategies consisted mainly of self-monitoring questions designed to improve metacomprehension. Students were guided through five self-monitoring questions which were posted in the form of a chart on the wall. The first question students were to answer was "Did I meet my goal?". This question encouraged students to check to make sure that they had met their initial goal for reading the article. The second self-monitoring question that students were taught to answer was "What did I learn?". This question is the final question in the K-W-L approach. Students were taught to identify information that was previously unknown to them and to share it orally with the group. The third question that students were taught to ask themselves was "Were my predictions accurate?". Students analyzed the predictions that they had made while reading the story in order to determine whether or not they had been correct. Students were also encouraged to share correct as well as incorrect predictions and to discuss why they had made good or bad predictions. The next self-monitoring question that students learned to ask themselves was "Did everything make sense?". Students were asked to check their understanding of the story, and if they could identify sections of the text that were ambiguous or unclear, they were taught to go back and re-read (backtrack) those particular sections of the story. The last self-
monitoring question that students were taught to ask themselves was "Can I summarize the main points?". Students were shown how to summarize the critical events of the story. This was accomplished by the teacher modelling her thought processes during summarization. Once the students had listened to several sessions of the instructor modelling summarization, they were asked to work cooperatively to summate the text. After repeated practice at cooperative summarization, they were asked to take turns summarizing the story individually while the other students listened to check for their understanding.

The during reading and after reading strategies discussed above were all taught during the second day of reading the article. To reiterate, all of the prereading strategies were taught on day one of reading the article while during and postreading strategies were covered on the second day of reading the article.

As training in the use of specific reading strategies progressed throughout the course of the study, a shift occurred from the lessons being highly structured and teacher directed to having the students manage or regulate the lessons. Thus, there was a deliberate effort made to transfer direction of the lesson from the teacher to the students.

Reattribution Training

The second major component of treatment related to attributional training. Students in the treatment group received specific reattribution training for effort. During each remedial reading session, students were informed that the effortful use of strategies
would help them to better understand and remember what they had read. Also, students were instructed in the role that effort plays in achievement. The concept of the "Backwards Ape" was used. The word "APE" spelled backwards is "E-P-A". These letters are acronyms for Effort, Progress, and Achievement. These elements comprise the key components of the Backwards Ape Learning Triangle (Appendix K). This mnemonic device was displayed in chart form in the Learning Centre. It was referred to randomly, a minimum of once every three days, as a reminder to students that effort is a key component of successful learning.

Because practice is a key element of learning to read (Rosenshine & Stevens, 1986), students were encouraged to read at home on a regular basis. The teacher asked students to select a book and to choose a goal, in the form of a date, for completing their book. Once students had a goal set for completing their chosen book, the teacher recorded the student's name beside that date in a day planner. When the selected day arrived, the teacher checked to see; 1) if the student had completed the book, and 2) if the student could summarize the story. If the book was completed and understood, the student was awarded a certificate and was able to put a sticker on their "reading detective magnifying glass" (Appendix L). By using this method, students could see how many books they had read and the teacher could keep track of which students were practising their reading. When students completed a book, they were praised for their effort. Whenever possible, students were also praised for reading books that were of an increasing level difficulty.

In the months of September, November, January, March, and May, students were
tested to determine their reading rate. Reading rates were graphed comparatively by grade level. A grade level norm was determined by selecting five average readers from each grade. These "average" readers were selected by the classroom teachers as being students who had received a grade of "C" or "C+" in reading on their previous report card. From these five average readers the median score was selected as a comparative measure for graphing purposes. In September, students in the experimental condition were shown their scores on the graph as compared to the average range for their grade level. In November, a second reading rate was calculated for each student based on the same passage that they had read in September. As well, as a new reading passage for Fall of their grade level was selected and an up-dated reading rate for the second school term was calculated. When the November reading rate was completed, the students' improvement, or lack thereof, from September was graphed and shared. Similarly, in March, students repeated the same passage that they had read in November and were given a new, Spring grade level reading passage. Students could see their improvement, or lack thereof, compared to their previous reading rate and were praised accordingly for their accomplishments. In the cases where improvement was apparent, students were reminded of the relationship between effort, progress, and achievement. They were told that they had been working hard and that their hard work was contributing to their success. When progress was limited or non-existent, students were reminded of the relationship between effort, progress, and achievement. They were then encouraged to try harder. In many cases it was the students who had read more books who made the greatest gains in their reading rate and this information was made apparent to the
students.

Through this process students began to realize that increased effort leads to progress which in turn leads to goal achievement. It was emphasized at least weekly that the goal of the remedial reading program was to improve reading ability. Comments such as "You've really been working hard" and "You're improving" were made to students at appropriate times during the study, i.e., when a student was actually working hard, when they had demonstrated improvement on reading to meet their goals, or when they demonstrated growth on one of the reading rate measures given in September, November, January, March, or May.

Posttest Data Collection

Posttest data for the experimental and the control groups was collected during the first two weeks of May, 1995 between the hours of 9:00 a.m. and 3:00 p.m. All data for the experimental group was collected by a Special Education Assistant (SEA). The data for the control group was collected by a SEA, who administered the B.C. QUIET and the reading rate, and by the vice-principal of the school, who administered the REBI and the MSI. With both groups, the B.C. QUIET and the reading rates were administered individually, while the REBI and the MSI were administered in grade group settings with the questions being read aloud in order to eliminate the confounding variable of differential reading abilities amongst students.
CHAPTER IV

Results and Discussion

Preliminary Analyses

Analyses of variance (ANOVAs) were run to ascertain comparability of experimental and control groups on pre-test measures of word identification, passage comprehension, reading rate, self-efficacy, and knowledge of metacomprehension strategies for reading. These analyses revealed no significant differences between the groups on word identification, $F(1, 37) < 1, p > .05$; passage comprehension, $F(1, 37) < 1, p > .05$; and metacomprehension strategies, $F(1, 37) = 2.41, p > .05$. However, significant differences were found between the two groups on pre-test measures of reading rate, $F(1, 37) = 6.47, p < .05$; and self-efficacy $F(1, 37) = 7.34, p < .05$, with students in the experimental group scoring significantly higher than students in the control group. These differences between the experimental and control groups in these two areas likely arose because the grade six and seven students in the experimental group had worked with the Learning Assistance Teacher the previous year, who had focused on improving their reading rate during that time. Further, these same students in the experimental group might have scored higher on the measure of self-efficacy in reading because they had made gains in their reading the previous year, and were feeling more assured in their ability to read successfully. These between group differences will be
discussed in the next section. Means and standard deviations for each variable are presented in Table 1.

Table 1

Means and Standard Deviations of Pretest Measures

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self Efficacy (scored out of 125)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>89.13</td>
<td>6.57</td>
</tr>
<tr>
<td>Control</td>
<td>80.40</td>
<td>13.50</td>
</tr>
<tr>
<td>Metacomprehension (scored out of 25)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>10.33</td>
<td>5.82</td>
</tr>
<tr>
<td>Control</td>
<td>7.67</td>
<td>4.05</td>
</tr>
<tr>
<td>Word Identification (raw scores)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>48.25</td>
<td>11.33</td>
</tr>
<tr>
<td>Control</td>
<td>45.93</td>
<td>13.77</td>
</tr>
<tr>
<td>Passage Comprehension (raw scores)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>15.29</td>
<td>5.68</td>
</tr>
<tr>
<td>Control</td>
<td>15.40</td>
<td>4.05</td>
</tr>
<tr>
<td>Reading Rate (correct words per minute)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>79.63</td>
<td>25.78</td>
</tr>
<tr>
<td>Control</td>
<td>60.67</td>
<td>16.24</td>
</tr>
</tbody>
</table>
The preliminary analysis of data also revealed an outlying score across the pre- and posttest measures for both word identification and accuracy. These scores belonged to a grade five male student in the experimental group who began the school year as a total non-reader. Understandably, his scores were significantly below those of his peers to the point of being extreme outliers. For the purposes of this study, these outlying scores were not omitted from the data analyses because the results obtained through data analysis were significant when these scores were included.

Posttest Analyses

The hypothesis of this study predicted that providing students with direct instruction in reading strategies and reattribution training for effort would lead to increases in self-efficacy for reading, word identification ability, reading rate, comprehension skill, and knowledge of reading strategies. To test this, an overall MANOVA was applied to each of the five posttest measures. The MANOVA revealed a significant treatment effect, Wilk's $F(5,33) = 26.87$, $p < .001$. Univariate F tests were conducted and significant differences were found between the two groups on all dependent variables (see Table 2).
Table 2

Posttest Results of Univariate F Tests

<table>
<thead>
<tr>
<th>Measure</th>
<th>$SS_B$</th>
<th>$SS_W$</th>
<th>$MS_B$</th>
<th>$MS_W$</th>
<th>$F$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading Efficacy</td>
<td>3216.41</td>
<td>4207.33</td>
<td>3216.41</td>
<td>113.71</td>
<td>28.29***</td>
</tr>
<tr>
<td>Metacomprehension</td>
<td>698.68</td>
<td>407.07</td>
<td>698.68</td>
<td>11.00</td>
<td>63.51***</td>
</tr>
<tr>
<td>Word Identification</td>
<td>1843.86</td>
<td>3317.07</td>
<td>1843.86</td>
<td>89.65</td>
<td>20.57***</td>
</tr>
<tr>
<td>Passage Comprehension</td>
<td>110.93</td>
<td>967.73</td>
<td>110.93</td>
<td>26.15</td>
<td>4.24*</td>
</tr>
<tr>
<td>Reading Rate</td>
<td>8033.08</td>
<td>28706.00</td>
<td>8033.08</td>
<td>775.84</td>
<td>10.35**</td>
</tr>
</tbody>
</table>

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

**Word Identification.** The univariate F-test was significant, $F(1,37) = 20.57$, $p < .001$, indicating a treatment effect. Students who received reading strategy instruction combined with reattribution training for effort scored higher on the measure of word identification than did their counterparts in the control setting. The posttest scores on this measure may have been a result of the explicit instruction which the experimental group received in phonetic skills when analysing the vocabulary from the story passages. Colour coding the key phonetic sounds in each vocabulary word may have drawn students' attention to these sound-symbol relationships and therefore, when they encountered them in other words, they were able to successfully apply these phonemes to decode words. When viewing the qualitative data collected in the video tapes, this increased ability to decode words was evident in the students' ability to sound-out unusual or unfamiliar words such as "Annapurna" or "boogie-woogie".
Passage Comprehension. A treatment effect was obtained, $F(1,37) = 4.24$, $p < .05$. Students who received direct instruction in reading strategies combined with reattribution training for effort scored significantly higher on a measure of reading comprehension than did students in a control setting who did not receive the same instruction. The increased posttest scores in passage comprehension are likely related to the increased scores in word identification. Students who are able to decode successfully will be able to read more fluently. When students are readily able to decode words and to read fluently, they are able to devote more of their cognitive energy to comprehending the material read. A qualitative example of increased passage comprehension ability was seen in the April video tape. Harry, a grade six student who began the year reading at the grade one level, was able to summarize a short novel entitled "The Gold Coin Robbery" accurately with no prompting from the teacher.

Metacognitive Awareness. A significant effect due to treatment was obtained, $F(1,37) = 63.51$, $p < .001$. Students who received direct instruction in reading strategies and reattribution training for effort demonstrated greater understanding of effective reading skills than did students in a control setting who did not receive this instruction. This finding may be expected for students who receive direct instruction in a specific skill are likely to score well on a reliable measure of that skill. Qualitative evidence of a student’s knowledge of metacomprehensive strategies was seen in the April video tape featuring a grade five student named Robin. After reading one of the Steck-Vaughn passages he spontaneously began asking questions which featured the type of
questions emphasized during the formal reading lessons. Robin thus evidenced internalization of the reading strategies taught. Questions such as "What happened to the climbers (after they finished climbing the mountain)?", "How did they get so much courage to climb the mountain?", and "Why did they want to climb the mountain?" not only demonstrate Robin's understanding of the story, but also that he was taking his thoughts about the story further by asking himself questions that were not addressed by the article.

**Reading Rate.** A univariate F-test revealed a significant treatment effect, $F(1,37) = 10.35$, $p < .01$. It appears that providing students with direct instruction in reading strategies while attributing their successes to effort leads to an increase in their reading rate. However, as mentioned in the discussion of preliminary analyses, a between group pretest difference existed for this measure and therefore, it was necessary to conduct a further analysis in order to determine if this finding was significant. This analysis is discussed in the next section.

**Self-efficacy.** A univariate F-test yielded a significant treatment effect, $F(1,37) = 28.29$, $p < .001$. This analysis appears to indicate that providing students with specific pre-, during-, and post-reading strategies while attributing their successes to effort serves to increase their self-efficacy for reading. However, as previously mentioned, a between group difference existed on this pretest measure and therefore, further data analysis was required in order to examine the actual effect of treatment. The findings of this further
analysis are discussed in the following section.

Table 3

Means and Standard Deviations of Posttest Measures

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self Efficacy (scored out of 125)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>98.67</td>
<td>8.71</td>
</tr>
<tr>
<td>Control</td>
<td>80.00</td>
<td>13.19</td>
</tr>
<tr>
<td>Metacomprehension (scored out of 25)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>16.17</td>
<td>3.84</td>
</tr>
<tr>
<td>Control</td>
<td>7.47</td>
<td>2.20</td>
</tr>
<tr>
<td>Word Identification (raw scores)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>58.67</td>
<td>8.45</td>
</tr>
<tr>
<td>Control</td>
<td>44.53</td>
<td>10.93</td>
</tr>
<tr>
<td>Passage Comprehension (raw scores)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>19.67</td>
<td>4.93</td>
</tr>
<tr>
<td>Control</td>
<td>16.20</td>
<td>5.40</td>
</tr>
<tr>
<td>Reading Rate (correct words per minute)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>115.50</td>
<td>31.70</td>
</tr>
<tr>
<td>Control</td>
<td>86.00</td>
<td>20.00</td>
</tr>
</tbody>
</table>
Analysis of Covariance

Due to the pretest differences which existed between the groups for self-efficacy, $F(1,37) = 7.34, p < .05$, and reading rate, $F(1,37) = 6.47, p < .05$, separate ANCOVA analyses were conducted on the posttest measures of both self-efficacy and reading rate. The purpose of the ANCOVA is to control for pretest differences.

**Self-efficacy.** The homogeneity of regression slopes for the measure of reading efficacy was not significant $F(3,35) = .63, p > .05$, and therefore, the assumption of homogeneity of regression slopes was fulfilled. An ANCOVA was conducted using the pretest scores on the Reading Efficacy Beliefs Inventory (REBI) as the covariate. The ANCOVA revealed a significant treatment effect, $F(2,36) = 18.96, p < .001$ (see Table 3). This analysis revealed that when pretest differences between the two groups were controlled for, students in the experimental group scored significantly higher on the measure of self-efficacy for reading than did students in the control setting. Students who received direct instruction in reading strategies combined with reattribution training for effort scored significantly higher on a measure of self-efficacy for reading than did students in the control setting.
Table 4

ANCOVA Results for Posttest Reading Efficacy Beliefs Inventory (REBI)

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>DF</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within Cells</td>
<td>2065.81</td>
<td>36</td>
<td>57.38</td>
<td></td>
</tr>
<tr>
<td>Regression</td>
<td>2141.52</td>
<td>1</td>
<td>2141.52</td>
<td>37.32</td>
</tr>
<tr>
<td>CLS</td>
<td>1088.05</td>
<td>1</td>
<td>1088.05</td>
<td>19.96***</td>
</tr>
</tbody>
</table>

***p < .001

Students’ improved self-efficacy was qualitatively evident by statements made throughout the course of the video tapes. Nadia’s comment where she enthusiastically stated "I'm on my third magnifying glass now!" is evidence of her pride in her reading. The eager way that Dana asked "Can I read the caption?" is an example which demonstrates her positive self-efficacy for reading. The following dialogue between the teacher and one of the students is a clear illustration of positive self-efficacy for reading:

Teacher: "Nicola, can you tell me what is happening to your reading?"

Nicola: "I'm getting better!"

It must be remembered that Nadia, Dana, and Nicola were all students who began the program as readers of low ability who not only did not enjoy reading, but also had no trust in their ability to read proficiently.

A second qualitative example which depicts changes in students’ self-efficacy for reading is evident in the following dialogue. Shawn, a quiet student who initially
avoided reading, had just finished reading three books to meet his reading goal. It should be noted that Shawn was only required to read one book in order to meet his goal, but had elected to read three books instead.

Teacher: "Shawn, you are barrelling along... What's going to happen to Shawn's reading?"

Students: "It's going to get better."

Teacher: "It's going to get better. Why is his reading going to get better?"

Robin: "Because he's reading more books."

Teacher: "And he's practising. The more you practice...?"

Nathan: "The more you get better."

Teacher: "Who is finding that that's working for them?"

(All hands went up.)

Teacher: "Shawn, can you feel a difference?"

Shawn: (Nods.)

This interaction demonstrates that the students were coming to understand the relationship between effort and improved reading ability. They were beginning to discern that if they practiced their reading, they were more likely to enhance their reading ability. As their reading ability improved, so did their self-efficacy for reading. The following exchange illustrates this point:
Teacher: "Who thinks they like reading now more than they used to?"

(Four hands went up.)

Donald: "I got 'A' on my spelling test because I read."

Teacher: You do like reading a little more than you used to, is that what you're telling me?"

Donald: "Yeah."

Teacher: "Hands up if reading is still not your thing."

(No hands went up.)

Shawn: "I love reading."

Teacher: "Because I remember at the beginning of the year... What were we saying at the beginning of the year?"

Nathan: "Nobody liked reading."

Shawn: "I hated reading."

Teacher: "You hated it at the beginning, and how is it now?"

Emily: "Good."

Stephen: "I love it."

Teacher: "Better? You don’t mind it so much."

From this interchange it is possible to see how the students' self-efficacy for reading changed throughout the course of the study.
Another descriptive measure which adds support to the statistical finding that combining instruction in strategic reading with reattribution training for effort improves self-efficacy for reading was made by a grade five student who initially was of very low reading ability. At the beginning of the year, this student was extremely quiet during reading lessons and did not participate in discussions. After only thirteen weeks of reading intervention, he was asked to make a prediction based on the pre-reading strategies which had been emphasized during the lesson. He stated his prediction with confidence and then turned to another student and said, "See, I knew I could do it!". Remarks of this nature, made by the students throughout the course of treatment, add credence to the quantitative findings.

**Reading rate.** The homogeneity of regression slopes for the measure of reading rate was not significant $F(3,35) = .25, p > .05$, and thus, the assumption of homogeneity of regression slopes was fulfilled. An ANCOVA, using the pretest reading rate scores as a covariate, was utilized for this measure and a significant treatment was not found when an ANCOVA was conducted to control for pretest differences between the two groups, $F(2,36) = 3.23, p = .08$ (see Table 4). This analysis indicates that combining reading strategy instruction with reattribution training does not serve to significantly enhance scores in reading rate. It is not possible to state this unequivocally, however, due to the fact that the two pretest groups were not identical. Further analysis needs to be conducted in order to determine whether or not the treatment has an effect on reading rate.
This study focused on the following hypothesis: *Instruction in strategic reading combined with reattribution training for effort will lead to increased reading proficiency and improved self-efficacy among students with low ability in reading.* The results of the study lead to an overall answer in the affirmative. The key findings of this study can be summarized according to the five research questions which were posed in Chapter I:

1. **What was the effect of strategic reading instruction combined with reattribution training on students' reading comprehension?**

As a result of the treatment, students in the experimental group demonstrated significantly higher scores in reading comprehension when compared to students in the control setting. The results of this study indicate that combining strategic reading instruction with reattribution training results in improved reading comprehension.
2. What was the effect of strategic reading instruction combined with reattribution training on students' word recognition?

Students in the experimental group who received strategic reading instruction and reattribution training scored significantly higher on a measure of word recognition than did students in the control setting. Integrating strategic reading instruction with reattribution training for effort had a positive effect on scores of word identification.

3. What was the effect of strategic reading instruction combined with reattribution training on students' rate of reading?

Due to pretest differences between the experimental and the control group, the answer to this question remains indeterminate. The findings of this study suggest that strategic reading instruction combined with reattribution training for effort has no significant effect on improving reading rate. However, these findings should not be interpreted as conclusive. Further research involving comparable experimental and control groups needs to be conducted before conclusive results can be obtained. Also, it should be noted that although reading rate plays a factor in successful reading, the comprehension of the material read is of greater importance. The fact that a student can decode with tremendous speed does not matter if he/she is not comprehending the written words. For the purposes of this study, the finding that students in the experimental group scored significantly higher on a measure of reading comprehension was deemed as being
more critical than if they had significantly improved their rate of reading.

4. What was the effect of strategic reading instruction combined with reattribution training on students' perceived self-efficacy for reading?

Students in the experimental group scored significantly higher on a measure of self-efficacy for reading than did students in the control setting. Combining strategic reading instruction with reattribution for effort enhances students' beliefs in their ability to be successful readers. This is a critical finding because as mentioned in Chapter II, students who believe that they have the ability to be successful readers tend to exert greater effort and to persevere longer with their reading than do students who doubt their ability. This greater effort and perseverance leads to greater success with reading and this in turn serves to further enhance self-efficacy for reading. The reciprocal nature of "skill" with "will" appears to have been born out in this study.

5. What was the effect of strategic reading instruction combined with reattribution training on students' metacognitive awareness of the reading process?

Students in the experimental condition scored significantly higher on a measure of awareness of metacomprehensive strategies than did students in the control setting. Combining strategic reading instruction with reattribution training improved students'
metacognitive awareness of the reading process.

In summary, both the qualitative and especially the quantitative data support the finding that for students of low ability in reading, combining instruction in strategic reading with reattribution training for effort results in increased reading proficiency and improved self-efficacy. However, when evaluating the results of this study, one must recognize that a broad instructional package was utilized which included not only direct instruction in reading strategies and reattribution training for effort, but vocabulary development as well as the components of practice and goal-setting. The findings of this study are attributable to a holistic approach to the reading process which, while focusing on instruction in strategic reading with reattribution training for effort, also addressed vocabulary development, goal-setting, and practice.
CHAPTER V

Conclusions

The purpose of this study was to increase reading proficiency and to improve the self-efficacy of students of low reading ability by providing them with direct instruction in strategic reading and by employing reattributional training for effort. Students received instruction in reading strategies for use in three different stages of reading: Pre, during, and post-reading. To recapture these reading strategies, pre-reading strategies included examining the title and headings, looking at the pictures, skimming the text, thinking about what the story might be about, and activating prior knowledge. During reading strategies included identifying the main idea, making inferences, and backtracking. Postreading strategies included self-monitoring such as "Did I meet my goal?", "What did I learn?", "Were my predictions accurate?", "Did everything make sense?", and "Can I summarize the main points?". In addition, the students received reattribution training for effort. Effort, rather than ability, was the attribution focused upon because it is more malleable than innate ability. The students were made aware of the relationship between effort and achievement. The results of the study indicate that combining instruction in strategic reading with reattribution training for effort leads to increased scores in word identification, passage comprehension, knowledge of metacomprehensive strategies, and self-efficacy.

Several important issues should be mentioned regarding this study. First, it
should be noted this study did not utilize a truly randomized control group. This is due to the fact that educational settings, as opposed to laboratory settings, rarely lend themselves to ideal, textbook examples of experimental designs. A multitude of human variables such as perceptions, cognitions, and behaviours on the part of both teachers and students serve to create an interminable number of interactions that are difficult to control for. Linn (1986) makes the point that "where random assignment is not feasible but different groups receive different treatments, there is always a question of comparability" (p.99) while Biddle and Anderson (1986) stress that "it is quite impossible to conduct a true, manipulative process-product experiment" (p.235). In the case of a nonrandomized study such as this, the validity of comparisons may appear suspect. However, Linn states that "randomized experiments are the exception rather than the rule in research on teaching" (p. 96). He goes on to point out that the use of ANCOVA, as utilized in this study, does serve to reduce preexisting differences between the groups and to increase precision. Therefore, although the control and experimental groups in this study were not randomized, the results of this study are still meaningful and support the conclusion that students who receive a combination of strategic reading instruction and reattribution training for effort score higher on measures of reading comprehension, word identification, self-efficacy, and awareness of metacomprehension strategies than students who do not receive such instruction.

A second key point that should be mentioned is that in a study such as this which manipulates both metacognitive (reading strategies) and attributional domains (positive self-efficacy), it is impossible to determine which manipulated variable had the greatest
effect on any particular posttest result. For example, initially it may seem reasonable to assume that the reattribution training accounted for the improved scores on the Reading Efficacy Beliefs Inventory as this measured students’ self-efficacy for reading. However, due to the interactional effect that reading strategy instruction has upon self-efficacy for reading, one cannot accredit the improvement on posttest scores to any one particular manipulation. Teaching students the skills necessary to be effective readers enhances their reading ability. This, in turn, leads to improved self-efficacy for reading. As students come to believe in their ability to be successful readers they tend to try harder and to persevere longer in the face of difficulty. This further enhances their reading ability. This reciprocal interaction between knowledge of effective reading strategies and self-efficacy for reading makes it impossible to attribute posttest gains to any one particular variable. Hence, the results of this study must be interpreted with caution.

Due to the reciprocal interactional effect between knowledge of reading strategies and self-efficacy, the findings of this study must be interpreted in a holistic manner, with equal weight being given to the instruction of reading strategies and to the reattributitional training.

Another important point which needs to be addressed when discussing the results of this study is the element of practice. As mentioned in Chapter III, students in the experimental group were encouraged to practice their reading. The goal setting and the record keeping described in Chapter III was a deliberate attempt to encourage students to practice their reading. Rosenshine and Stevens (1986) emphasize the importance of practice in establishing a level of automaticity in the utilization of reading strategies. The
findings of this study seem to support Rosenshine and Stevens’(1986) conclusions in that those students who read the most books often made the greatest gains in their reading. To illustrate, throughout the course of the study Rachel read twenty-five books. Her REBI scores improved from a total of 98 in September to 109 in May, and her knowledge of metacomprehension strategies more than doubled. Further, Rachel’s passage comprehension increased from the 5th percentile in September to the 36th percentile in May. Finally, her reading rate went from 97 correct words per minute in September to 142 correct words per minute in May. In contrast, Gord read only six books throughout the course of the study and as a result, his REBI score remained the same in May as it had been in September. His scores on the Metacomprehension Strategy Index failed to increase. His word identification scores went from the 3rd percentile to the 8th percentile and his passage comprehension scores went from the 4th percentile to the 7th percentile. Gord’s reading rate went from 67 correct words per minute in September to 95 correct words per minute in May. While this is a sign of improvement, it is not as substantial as the improvement in Rachel’s reading rate and comprehension. Although other factors such as ability may have limited Gord’s growth, it appears that a causation may exist between the amount of practice reading done and improvement in posttest reading scores. For the purposes of this study, however, this correlation was not of key interest. It is mentioned only to serve as a reminder that the element of practice reading may have played a role in obtaining the results recorded in this study. If the students in the experimental group had not been encouraged to practice their reading, they may not have mastered the reading strategies presented. If they had
not become proficient in the use of these reading strategies, they might not have improved their reading ability and if their reading ability had not improved, their self-efficacy might have been affected. Their self-efficacy, which was already low to begin with, may have decreased and they would have be even more reluctant to put forth effort and to persevere with their reading. As a result, their reading skills might have declined. For the purposes of this research then, the importance of reading practice on the part of the students cannot be disregarded. The results of this study might have been markedly different if the students in the experimental group had not been encouraged to practice their reading.

A fourth important point which should be mentioned is that this study was particularly lengthy in its duration. Few studies in the area of reading exist which are of seven months in duration. This is important to mention because many of the qualitative indicators of change in students' ability and beliefs were not recognizable before at least three months of intervention had occurred. This suggests that when working with students who are of low ability in reading, it must be ensured that treatment is of sufficient duration in order to evoke change. The qualitative findings of this study suggest that a minimum of three months of treatment may be required in order to produce significant findings. Previous studies, whose interventions were of short duration, may have produced suspect results.

Finally, it should be noted that not only did the quantitative data support the hypothesis of this study but the qualitative measurements added credence to the statistical findings. From the comments made throughout the course of treatment it became
apparent that students were aware of the changes in both their reading ability and their self-efficacy for reading. It was extremely rewarding as a researcher to hear the students make genuine, positive remarks regarding their reading. A grade four student, who was reading several years below her grade level in September, made the comment in January, "I didn’t think I could read it but I could - I was happy!". She was referring to a reading passage which was at the grade four level. This was indeed a sign of positive growth after only three months of reading intervention! Another descriptive example which helps to portray the success of this study came from the mother of one of the grade seven students. This student had a chronic history of reading difficulty and had received support through a variety of Learning Assistant Programs since his grade two year. In a telephone conversation towards the end of the study his mother stated "I can’t believe the change in Donald. I used to have to force him to pick up a book and read. Now, he’s always got his head in a book - he doesn’t put them down!". Perhaps the most powerful illustration which could be taken from the qualitative data collected was a statement made by a grade five student who was experiencing a great deal of difficulty with his reading at the beginning of the school year. He actively avoided reading and was described as a reluctant participant in the classroom. After some fourteen weeks of reading intervention this student’s attitudes towards reading appeared to change profoundly. During one of the remedial reading sessions, when the recess bell rang before the group had finished reading an article on Harry Houdini, this student was heard to exclaim in a disappointed voice "Aw, do we have to go?". It was rewarding to hear a student who was of such low ability in reading actually wish that he could continue reading when his friends were
playing outside.

I now turn to discuss the limitations, the implications for future research, and the implications for educational practitioners suggested in this study.

**Limitations of the Study**

There were several limitations to this study. First, there was no test of maintenance. This was due to time constraints imposed by the school year. Although the study began on October 1, 1994, the pretest measures took most of the month of September to collect. The study ended on April 30, 1995 and the posttest results took until the middle of May to complete. Each student required approximately two hours of pre- and posttesting. Although it was the intent of the author to conduct a measure of maintenance, concerns from the school administration and the teaching staff regarding the amount of time that students in the study were required to miss from class in order to take the maintenance test, and the many interruptions from field trips during the month of June made it impossible to conduct the maintenance test. In order to have included a maintenance test in this study, the treatment would have had to have concluded much earlier in the school year, perhaps at the end of February. This would have allowed time for posttesting, a maintenance period, and final testing for maintenance. The author of this study made the deliberate decision to continue the treatment effect for as long a period as possible. However, prolonged intervention cut into the time for maintenance
testing. The lack of maintenance data is a serious limitation of the study because students with learning disabilities or students who are of low reading ability are often the ones who fail to maintain acquired knowledge and to transfer learned skills across new settings (Wong, 1991). As such, it would have been enlightening to know how the students in this study maintained the knowledge acquired across time.

A second limitation of this study is that it does not allow for conclusions regarding the generalization of acquired skills. Students with learning disabilities often do not generalize knowledge and skills to new situations and settings (Ellis & Friend, 1991; Smith & Rivera, 1991). Although the researcher in this study attempted to show students how the reading strategies could be generalized to other subject areas such as socials studies and science, it was not possible to assess how successful they were in generalizations of the learned reading strategies. In order to determine if generalization had occurred, it would have been necessary to involve the individual classroom teachers and that was, unfortunately, beyond the scope of this study.

Implications For Future Research

While the results of this study make a meaningful contribution to the current research on reading, several key questions beg for further exploration. First, while the current results indicate that providing students with direct instruction in specific reading strategies and reattribution training for effort will lead to improved reading proficiency and increased self-efficacy, further research needs to explore whether or not these
findings are maintained over time. Therefore, this study should be repeated including a test of maintenance.

Second, the findings of this study can draw no conclusions pertaining to whether or not students generalized the skills taught across settings. The study should be repeated with a measure to evaluate generalization built in to the design.

Third, the mechanisms underlying the relationship between reading skills and self-efficacy need to be further explored. This study has suggested that there is a strong connection between reading skills and self-efficacy for reading. Future research needs to explore the mediators of the connection.

Finally, future research needs to consider the optimal duration of treatment. The findings of many of the previous studies had been based on minimal interventions of only days or weeks, and yet this study suggests that in order to evoke changes in students’ reading ability and self-efficacy, a minimum of three months of treatment may be required. If this is the case, future research needs to take this finding into account. Subsequent research must provide for studies that are of sufficient length in order to elicit the full effects of change.

Implications For Practitioners

Several important implications for practitioners can be drawn from the findings of this study. Perhaps most importantly, the results of this study speak to the need among educators to consider a two-fold approach to the remediation of students with low reading
ability. Strategic reading relies heavily on both metacognition and self-efficacy and therefore, effective remedial reading programs need to address both of these components. This assertion has been supported by previous researchers (Borkowski et al., 1986). In fact, Borkowski et al. (1989) would view metacognition and self-efficacy as inseparable entities. Therefore, not only should a dual approach be adopted when providing remediation to readers who are "at-risk" or learning disabled, but the teacher needs to recognize that the attributional retraining needs to be both intensive and prolonged in order to overcome the students' debilitating, negative beliefs regarding their reading ability.

Another implication for educational practitioners is the importance of incorporating practice into the remediation of students who are "at-risk" or learning disabled. Students may receive instruction in reading strategies but if they do not internalize these strategies to the level of automaticity, the benefits to their reading will not be realized. The element of practice is one way of helping to ensure that students internalize the reading strategies to the point of where they can use them spontaneously. Effective reading intervention needs to incorporate the element of practice into students' remedial reading programs.

Another consideration for educational practitioners is the credence that this study lends to a pull-out remedial program. Service delivery has become a controversial issue within the field of learning disabilities (Kauffman & Trent, 1991). This study has demonstrated that explicit, direct instruction combined with reattribution training can lead to increased reading proficiency and improved self-efficacy for students of low ability in
reading. The instruction necessary to produce these changes had to be not only precise, but highly focused in nature. Kauffman and Trent (1991) argue that conducting this type of instruction is more feasible within the structure of a pull-out program than within the less controlled setting of the regular classroom. While it is not the intent of this author to champion one type of service delivery over another, the results of this study support the notion that it is what transpires during instruction that is the key to learning. The fact that this study took place within the pull-out paradigm adds credence to the fact that pull-out programs, which have been highly criticized by a number of educators, do serve a worthwhile purpose in the remediation students who are "at-risk" or learning disabled and as such, should not be abandoned completely in favour of exclusive mainstreaming practices.

Finally, what can be generalized from this study? Educators need to consider the implications that this study may have on instruction not only for students who are "at-risk" or learning disabled, but for the students of regular reading programs as well. It may well be that the deliberate, purposeful instruction of reading strategies combined with attributional training would be of benefit to reading students of all abilities. All too often research in the area of reading focuses on those students who are of low ability or learning disabled. Perhaps the educational procedures outlined in this study have merit for reading instruction for all students. What if the instructional procedures outlined in this study had the potential to make "good" readers even better? Not only does this issue have implications for practitioners, but it also invites a question for future research.

It remains to be seen what implications this study has on the area of reading
instruction. The challenge is for the astute practitioner to take the information that has been presented in this study and to incorporate it into meaningful, useful methodology in the classroom.

In conclusion, this study focused on combining instruction in reading strategies with reattribution training for students who were of low reading ability. The results reveal that this broad-based, holistic instructional procedure served not only to improve students' ability to identify words, comprehend passages, and understand metacognitive reading processes, but it also enhanced their self-efficacy for reading. The study did have limitations. However, more importantly, it had notable implications for both future researchers and for educational practitioners. It is hoped that both researchers and practitioners can benefit from and further enhance the findings of this study.
References


Appendix A

Sample Questions From the B.C. QUIET Reading Comprehension Subtest

Student’s Copy

11. Tyrannosaurus was one of the most terrible dinosaurs that ever lived. All the other _____ feared him, except one that had 3 horns.

12. Scientists look at pictures of the moon and the stars. Looking at the _____ and the stars helps them understand the earth.

13. The dog carried a newspaper to its master inside the house. The master _____ the dog a pat and fed it.
Sample Questions From the B.C. QUIET Reading Comprehension Subtest

Teacher's Copy

Key

If starting here, say, "Now do this one. Read it silently and tell me ONE word that will go in the blank and make sense."

11. Tyrannosaurus was one of the most terrible dinosaurs that ever lived. All the other ______ feared him, except one that had 3 horns.
Correct: dinosaurs, ones
Incorrect: Tyrannosaurus, animals

12. Scientists look at pictures of the moon and the stars. Looking at the ______ and the stars helps them understand the earth.
Correct: moon
Incorrect: pictures, it, planets

13. The dog carried a newspaper to its master inside the house. The master ______ the dog a pat and fed it.
Correct: gave, awarded
Incorrect: patted, made

Passage Comprehension 77
### Appendix B

**Sample Question From the B.C. QUIET Word Identification Subtest**

**Student's Copy**

<table>
<thead>
<tr>
<th>bounds</th>
<th>multiplied</th>
<th>fastened</th>
<th>brilliant</th>
<th>breathe</th>
</tr>
</thead>
<tbody>
<tr>
<td>pronghorn</td>
<td>bush</td>
<td>grocery</td>
<td>grind</td>
<td>character</td>
</tr>
</tbody>
</table>

**Word Identification**

46
Sample Question From the B.C. QUIET Word Identification Subtest

Teacher's Copy

Point to the desired starting item and say, "You are going to say some words. Read this aloud; when you have finished, go to the next one and read it aloud and so on. Say each word as well as you can. Begin."

<table>
<thead>
<tr>
<th>bounds</th>
<th>multiplied</th>
<th>fastened</th>
<th>brilliant</th>
<th>breathe</th>
</tr>
</thead>
<tbody>
<tr>
<td>pronghorn</td>
<td>bush</td>
<td>grocery</td>
<td>grind</td>
<td>character</td>
</tr>
</tbody>
</table>
Teddy lived in Vancouver. He went to school in the winter and in the summer he played out of doors.

It was fun when the ice-cream man’s bell rang, but Teddy’s mother could not give him money every day. "Why don’t you get a job?" his brother George asked. "I earned money when I was your age."

A job! That was a fine idea. Teddy saw a notice BOY WANTED in the tailor shop, so Teddy went to the tailor shop to ask for the job.

"No," Mr. Brown said. "You couldn’t deliver these clothes without dragging them on the floor."

Next, Teddy went to the hardware store to ask for a job.

"No," said Mr. Bradley, at the hardware store. "Some of my orders have to be carried up four or five flights of stairs. You couldn’t do that. They are too heavy."
TEDDY’S JOB - 143 words total

Teddy lived in Vancouver. He went to school in the winter and in the summer he played out of doors.

It was fun when the ice-cream man’s bell rang, but Teddy’s mother could not give him money every day. "Why don’t you get a job?" his brother George asked. "I earned money when I was your age."

A job! That was a fine idea. Teddy saw a notice BOY WANTED in the tailor shop, so Teddy went to the tailor shop to ask for the job.

"No," Mr. Brown said. "You couldn’t deliver these clothes without dragging them on the floor."

Next, Teddy went to the hardware store to ask for a job.

"No," said Mr. Bradley, at the hardware store. "Some of my orders have to be carried up four or five flights of stairs. You couldn’t do that. They are too heavy."

(L) 1. Where did Teddy live? (Vancouver, in the city)

(L) 2. What did Teddy enjoy about the summer? (getting ice-cream from the ice-cream man)

(I) 3. Why couldn’t Teddy’s mother give him money every day? (they didn’t have enough money; they were poor)

(L) 4. What did his brother George suggest he should do? (get a job)

(L) 5. Where did Teddy first try to get a job? (at a tailor’s shop)

(I) 6. Why didn’t Teddy get the job at the tailor’s shop? (he was too small; he was too short)

(L) 7. Where was the second place Teddy went for a job? (a hardware store)
Grandpa's mind was made up. He was going to buy an automobile! Yes, Grandpa said, times were changing. Horse and buggy days were at an end. He wanted to keep up with the times and so he was going to buy a Ford, a model-T Ford.

"I want to go for a ride," cried Emily.

"Now, Emily," said Mama firmly. "You are not to set foot in that automobile for a long time. I just don’t trust your Grandfather’s driving."

Finally, one Sunday, Grandpa and Grandma drove over to Emily’s house in the new Ford. "Come on," said Grandpa. "We’ve come to take the whole family for a ride." This time there was no way out for Mama.

Grandpa cranked the car - and cranked it and cranked it. Finally the engine started, with a noise like machinery sneezing, and the automobile began to shake.
Grandpa's mind was made up. He was going to buy an automobile! Yes, Grandpa said, times were changing. Horse and buggy days were at an end. He wanted to keep up with the times and so he was going to buy a Ford, a model-T Ford.

"I want to go for a ride," cried Emily.

"Now, Emily," said Mama firmly. "You are not to set foot in that automobile for a long time. I just don't trust your Grandfather's driving."

Finally, one Sunday, Grandpa and Grandma drove over to Emily's house in the new Ford. "Come on," said Grandpa. "We've come to take the whole family for a ride." This time there was no way out for Mama.

Grandpa cranked the car - and cranked it and cranked it. Finally the engine started, with a noise like machinery sneezing, and the automobile began to shake.

(L) 1. What was Grandpa going to buy? (a Ford; a model-T Ford)
(L) 2. Why had Grandpa decided to buy a car? (because times were changing; horse and buggy days were over)
(I) 3. Why do you think Emily wanted to go for a ride? (because cars were new and novel; she had never been in a car)
(L) 4. Why would Emily's mother not let her go for a drive? (she didn't trust Grandpa's driving)
(L) 5. How did Emily finally get to go for a drive? (Grandpa invited Emily's whole family for a drive)
(L) 6. Why did Grandpa crank the car? (to start the engine)
(L) 7. What did the car sound like when it started? (machinery sneezing)
In the vast and varied land of India there is a part known as the Great Gangetic Plain. It is flat country fed by the waters of the Ganges River. Some of the plain is very dry indeed, but thousands of little farms dot the land where water can be had. And on one of these little farms lived an old man and his wife.

They were not rich - far from it! They had to work hard to live at all. And when they had produce to sell - carrots or peppers, lentils or beans - the old man had to start in the middle of the night on the long journey to market. At dawn he would reach the place. All morning he would sell his vegetables and, with the money paid him, buy a few things for himself and his wife - wheat and sugar. Then he would take the long journey back, and reach his home as darkness came again.
In the vast and varied land of India there is a part known as the Great Gangetic Plain. It is flat country fed by the waters of the Ganges River. Some of the plain is very dry indeed, but thousands of little farms dot the land where water can be had. And on one of these little farms lived an old man and his wife.

They were not rich - far from it! They had to work hard to live at all. And when they had produce to sell - carrots or peppers, lentils or beans - the old man had to start in the middle of the night on the long journey to market. At dawn he would reach the place. All morning he would sell his vegetables and, with the money paid him, buy a few things for himself and his wife - wheat and sugar. Then he would take the long journey back, and reach his home as darkness came again.

(L) 1. In what country is the Great Gangetic Plain found? (India)

(L) 2. What do most of the people do on this Plain? (farm the land)

(L) 3. How are the two main people described in the story? (poor; hard working; living on a small farm)

(L) 4. What are two products the man and his wife grow on their farm? (carrots, peppers, lentils or beans)

(L) 5. What in the story indicates that it is a long journey to the market? (the old man had to start in the middle of the night to get to the market by dawn)

(L) 6. What did the man do at the market? (sell his produce)

(L) 7. What are two things the old man bought at the market? (wheat and sugar)
The Hood boys were always laying for Punk, though he never knew exactly why. It was really Toad Hood who was the bully. His younger brother, Spider, was an eerie little fellow without the power of speech. He had to do all his talking by signals. But he was mean as poison and whenever Toad waded into Punk, Spider did his share, kicking and biting. Mostly Punk avoided that part of the woods where the Hood cabin stood just off the country road. But there were times when Toad waylaid him and then Punk either had to stand or run. Usually he ran because Toad was bigger, and then there was always Spider around the edge of the fracas.

The situation finally reached a point where Punk knew he would have to take Toad on and lick him if he could. Toad, strong with the knowledge of Punk’s fear of him, was beginning to go after the younger boy. It was becoming harder for Punk to avoid running into him. There would have to be a showdown.
The Hood boys were always laying for Punk, though he never knew exactly why. It was really Toad Hood who was the bully. His younger brother, Spider, was an eerie little fellow without the power of speech. He had to do all his talking by signals. But he was mean as poison and whenever Toad waded into Punk, Spider did his share, kicking and biting. Mostly Punk avoided that part of the woods where the Hood cabin stood just off the country road. But there were times when Toad waylaid him and then Punk either had to stand or run. Usually he ran because Toad was bigger, and then there was always Spider around the edge of the fracas.

The situation finally reached a point where Punk knew he would have to take Toad on and lick him if he could. Toad, strong with the knowledge of Punk's fear of him, was beginning to go after the younger boy. It was becoming harder for Punk to avoid running into him. There would have to be a showdown.

1. Who was the bully in the story? (Toad Hood)
2. What was special about Spider Hood? (couldn't talk; didn't have the power of speech; used sign language)
3. What does the story mean when it says "The Hood boys were always laying for Punk"? (waiting for him)
4. What do you think the word "fracas" means? (noisy; quarrel; row; fight)
5. Why did Punk feel he must take Toad on? (so that Toad would stop bullying him)
6. In what kind of a setting does this story take place? (the woods)
7. Why did Punk usually run from the brothers? (Toad was bigger than Punk and Spider was always there to kick and punch too)
Metacomprehension Strategy Index (MSI)

Metacomprehension Strategy Index

Directions: Think about what kinds of things you can do to help you understand a story better before, during, and after you read it. Read each of the lists of four statements and decide which one of them would help you the most. There are no right answers. It is just what you think would help the most. Circle the letter of the statement you choose.

I. In each set of four, choose the one statement which tells a good thing to do to help you understand a story better before you read it.

1. Before I begin reading, it's a good idea to:
   A. See how many pages are in the story.
   B. Look up all of the big words in the dictionary.
   C. Make some guesses about what I think will happen in the story.
   D. Think about what has happened so far in the story.

2. Before I begin reading, it's a good idea to:
   A. Look at the pictures to see what the story is about.
   B. Decide how long it will take me to read the story.
   C. Sound out the words I don't know.
   D. Check to see if the story is making sense.

3. Before I begin reading, it's a good idea to:
   A. Ask someone to read the story to me.
   B. Read the title to see what the story is about.
   C. Check to see if most of the words have long or short vowels in them.
   D. Check to see if the pictures are in order and make sense.
4. Before I begin reading, it's a good idea to:
   A. Check to see that no pages are missing.
   B. Make a list of the words I’m not sure about.
   C. Use the title and pictures to help me make guesses about what will happen in the story.
   D. Read the last sentence so I will know how the story ends.

5. Before I begin reading, it's a good idea to:
   A. Decide on why I am going to read the story.
   B. Use the difficult words to help me make guesses about what will happen in the story.
   C. Reread some parts to see if I can figure out what is happening if things aren’t making sense.
   D. Ask for help with the difficult words.

6. Before I begin reading, it's a good idea to:
   A. Retell all of the main points that have happened so far.
   B. Ask myself questions that I would like to have answered in the story.
   C. Think about the meanings of the words which have more than one meaning.
   D. Look through the story to find all of the words with three or more syllables.

7. Before I begin reading, it's a good idea to:
   A. Check to see if I have read this story before.
   B. Use my questions and guesses as a reason for reading the story.
   C. Make sure I can pronounce all of the words before I start.
   D. Think of a better title for the story.
8. Before I begin reading, it's a good idea to:
   A. Think of what I already know about the things I see in the pictures.
   B. See how many pages are in the story.
   C. Choose the best part of the story to read again.
   D. Read the story aloud to someone.

9. Before I begin reading, it's a good idea to:
   A. Practice reading the story aloud.
   B. Retell all of the main points to make sure I can remember the story.
   C. Think of what the people in the story might be like.
   D. Decide if I have enough time to read the story.

10. Before I begin reading, it's a good idea to:
    A. Check to see if I am understanding the story so far.
    B. Check to see if the words have more than one meaning.
    C. Think about where the story might be taking place.
    D. List all of the important details.

II. In each set of four, choose the one statement which tells a good thing to do to help you understand a story better while you are reading it.

11. While I'm reading, it's a good idea to:
    A. Read the story very slowly so that I will not miss any important parts.
    B. Read the title to see what the story is about.
    C. Check to see if the pictures have anything missing.
    D. Check to see if the story is making sense by seeing if I can tell what's happened so far.
12. While I'm reading, it's a good idea to:

A. Stop to retell the main points to see if I am understanding what has happened so far.
B. Read the story quickly so that I can find out what happened.
C. Read only the beginning and the end of the story to find out what it is about.
D. Skip the parts that are too difficult for me.

13. While I'm reading, it's a good idea to:

A. Look all of the big words up in the dictionary.
B. Put the book away and find another one if things aren't making sense.
C. Keep thinking about the title and the pictures to help me decide what is going to happen next.
D. Keep track of how many pages I have left to read.

14. While I'm reading, it's a good idea to:

A. Keep track of how long it is taking me to read the story.
B. Check to see if I can answer any of the questions I asked before I started reading.
C. Read the title to see what the story is going to be about.
D. Add the missing details to the pictures.

15. While I'm reading, it's a good idea to:

A. Have someone read the story aloud to me.
B. Keep track of how many pages I have read.
C. List the story's main character.
D. Check to see if my guesses are right or wrong.
16. While I'm reading, it's a good idea to:
   A. Check to see that the characters are real.
   B. Make a lot of guesses about what is going to happen next.
   C. Not look at the pictures because they might confuse me.
   D. Read the story aloud to someone.

17. While I'm reading, it's a good idea to:
   A. Try to answer the questions I asked myself.
   B. Try not to confuse what I already know with what I'm reading about.
   C. Read the story silently.
   D. Check to see if I am saying the new vocabulary words correctly.

18. While I'm reading, it's a good idea to:
   A. Try to see if my guesses are going to be right or wrong.
   B. Reread to be sure I haven't missed any of the words.
   C. Decide on why I am reading the story.
   D. List what happened first, second, third, and so on.

19. While I'm reading, it's a good idea to:
   A. See if I can recognize the new vocabulary words.
   B. Be careful not to skip any parts of the story.
   C. Check to see how many of the words I already know.
   D. Keep thinking of what I already know about the things and ideas in the story to help me decide what is going to happen.
20. While I'm reading, it's a good idea to:

A. Reread some parts or read ahead to see if I can figure out what is happening if things aren't making sense.

B. Take my time reading so that I can be sure I understand what is happening.

C. Change the ending so that it makes sense.

D. Check to see if there are enough pictures to help make the story ideas clear.

III. In each set of four, choose the one statement which tells a good thing to do to help you understand a story better after you have read it.

21. After I've read a story it's a good idea to:

A. Count how many pages I read with no mistakes.

B. Check to see if there were enough pictures to go with the story to make it interesting.

C. Check to see if I met my purpose for reading the story.

D. Underline the causes and effects.

22. After I've read a story it's a good idea to:

A. Underline the main idea.

B. Retell the main points of the whole story so that I can check to see if I understood it.

C. Read the story again to be sure I said all of the words right.

D. Practice reading the story aloud.
23. After I've read a story it's a good idea to:
   A. Read the title and look over the story to see what it is about.
   B. Check to see if I skipped any of the vocabulary words.
   C. Think about what made me make good or bad predictions.
   D. Make a guess about what will happen next in the story.

24. After I've read a story it's a good idea to:
   A. Look up all of the big words in the dictionary.
   B. Read the best parts aloud.
   C. Have someone read the story aloud to me.
   D. Think about how the story was like things I already knew about before I started reading.

25. After I've read a story it's a good idea to:
   A. Think about how I would have acted if I were the main character in the story.
   B. Practice reading the story silently for practice of good reading.
   C. Look over the story title and pictures to see what will happen.
   D. Make a list of the things I understood the most.
Reading Efficacy Beliefs Inventory (REBI)

### READING EFFICACY BELIEFS INVENTORY (REBI)

<table>
<thead>
<tr>
<th>Statement</th>
<th>STRONGLY AGREE</th>
<th>AGREE</th>
<th>DON'T KNOW</th>
<th>DISAGREE</th>
<th>STRONGLY DISAGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel confident in my ability to read most material.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I am a good reader.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I am not as good at reading as I would like to be.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Reading is an easy and pleasant activity for me.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I am able to figure out the words that I am not sure of.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. I find it difficult to read the material presented in class.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. I am able to read to find out new information.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. I believe that if I worked harder I could improve my reading.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. I am one of the best readers in my class.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. I am responsible for how well I do in reading.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. I believe I need some extra help with my reading in order to be a better reader.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. The teacher is responsible for how well I do in reading.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. I am able to read as well as most other kids my age.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15.</td>
<td>Even when I try very hard, I don't do as well in reading as I do in most other subjects.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16.</td>
<td>I know everything I need to know to be a good reader.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17.</td>
<td>I could not improve my reading no matter how hard I tried.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.</td>
<td>How well I do in reading is directly related to how hard I work at it.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19.</td>
<td>When my teacher says that my reading is improving it is because I have been working harder.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20.</td>
<td>I understand the stories that I read.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21.</td>
<td>I would rather not read out loud in class because my reading is not as good as I would like it to be.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22.</td>
<td>When I am struggling with my reading, I usually know what I am doing wrong.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23.</td>
<td>I am able to answer questions about something that I have read.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24.</td>
<td>I understand what is necessary to be a good reader.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25.</td>
<td>My reading helps me with other subjects like math, social studies or science.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
May 27, 1994

Nancy Gordon
10778 Doncaster Crescent
Delta, B.C.
V4C 8A6

Dear Nancy:

Thank you for sending your application for conducting research in Delta on REATTRIBUTION AND STRATEGIC READING INSTRUCTION FOR AT-RISK READERS.

District approval will be recommended if the following conditions is met:

1. Agreement of principals and involved teacher in the school where research is proposed.

If you have any questions, please feel free to contact my office at 596-7101.

Sincerely,

W. Graham Mallett, PhD.
District Vice-Principal,
Secondary Special Programs

cc: Kim Young, Assistant Superintendent

*Where Learning Matters*
Dear Parents:

This year I am completing my Masters Degree in Education at Simon Fraser University. My degree is in the area of Instructional Psychology, with a focus on Learning Disabilities. As part of my degree requirements I must complete a thesis. My particular area of interest is in how instruction in strategic reading practices can enhance the reading ability of poor readers. I am also interested in how we can change children’s beliefs about their reading ability in order to make them more self-confident, independent readers. Therefore, I am planning to conduct research which is designed to demonstrate that a learning assistance program that combines strategic reading instruction with training in self-esteem leads to increased gains in children’s reading ability. The title of this project is "Reattribution and Strategic Reading Instruction For At-Risk Readers".

I am requesting the participation of your child in this research project. It should be noted that your child will receive all of the benefits of a regular learning assistance program with a special emphasis on the building of a positive belief system towards reading. Conducting this study in no way alters or interferes with the educational program offered to your child.

Upon acceptance to the program, children will be asked to complete two questionnaires. One of these questionnaires examines beliefs about reading. The other studies children’s understanding/usage of reading strategies. Also, each student’s reading ability will be measured using an appropriate grade level reading passage. As the program in the learning assistance centre progresses, the students will receive instruction in effective reading strategies and training designed to enhance their beliefs in their ability to be successful readers. After a six month intervention, the previously mentioned questionnaires will be repeated along with another assessment of reading ability. Please note that there is no risk of any harm or stress what so ever in answering the questionnaires. Also, in keeping with current educational practices, all records will be kept strictly confidential and the anonymity of your child will be ensured.

If you would be willing to have your child participate in the research component of the Learning Assistance Program, please sign the consent form at the bottom of this page.

Should you have any additional questions regarding my research or the study described about, I would be happy to answer your queries. Please feel free to call me at the school at xxx-xxxx.

Thank you for you consideration of this matter.

Sincerely,

Mrs. N. Gordon
Intermediate Learning Assistant Teacher
Information to Parents and Parent Consent Form (continued)

As parent/guardian of ____________________________, I consent to him/her participating in the research project outlined above. I understand that this study is to be carried out in the learning assistance program at xxxx Elementary School between October 1, 1994 and March 31, 1995 by Mrs. N. Gordon, Intermediate Learning Assistance Teacher.

I certify that I understand the procedures to be used and I understand that I have the right to withdraw from the study at any time. I further understand that any documentation resulting from this study will guarantee the anonymity of the above-named child and that his/her name will not appear in any publication.

I give consent for the above-named child to participate in this project and acknowledge receipt of this document.

__________________________________________
Signature

__________________________________________
Date
INFORMATION TO BE EXPLAINED TO STUDENTS:

"My name is Mrs. Gordon and I am the Intermediate Learning Assistance Teacher at xxx Elementary School. I will be working with you this year to help you with your reading.

Just like you, I am also a student. I am attending Simon Fraser University to obtain a degree called a Masters of Arts in Education. Because this is my last year of university I must complete a very large paper called a 'thesis'. This means that I have to do some research and produce a very large essay about my findings. The research that I am interested in is helping kids to become better readers. I am, then, asking you if you would be willing to participate in my study. There would be no difference in the program that I would use with you. What I would be asking of you is if I could use the results of your learning in the writing of my thesis. You would be required to complete two questionnaires and one reading rate now, and the same two questionnaires and another reading rate in March. I would not be using your name, and no one would know that it was you that I was writing about.

If you choose to participate in my study, you would have the right to change your mind at any time and withdraw from the research. I would, however, continue to support you in the Learning Assistance Program and your non-participation would not be held against you. Also, even though your parents might agree to have you participate in the study, you do not have to participate if you do not wish to.

If you do wish to participate in my research, there is a consent form that your parents must sign in order for you to be able to be a part of the study.
BE A READING DETECTIVE

Think about K-W-L

"What do I Know?"

"What do I Want to learn?"

"What did I Learn?"
BEFORE READING

-skim the text
-examine the title and headings
-look at the pictures
-predict what the text is about
-think about what you already know
DURING READING

- identify the main idea
- make inferences
- make predictions
- look back for missed information
  "backtrack"
AFTER READING

-reflect on your reading

"Did I meet my goal?"

"What did I learn?"

"Were my predictions accurate?"

"Did everything make sense?"

"Can I summarize the main points?"
Nightmare at Sea

Captain Edward Smith stared out into the cold, still night. He had been given the honor of taking the Titanic on her very first trip. After this trip, Smith planned to retire.

Smith told the lookout, Frederick Fleet, about the reports of ice he had received. Then he went inside the ship to dinner.

Fleet searched the darkness. His job was to watch for icebergs. Fleet watched carefully, but he wasn't really worried. The Titanic was the biggest, strongest, safest ship ever built.

All at once, Fleet saw a black shadow right in front of the ship. It was an iceberg! Quickly he rang the warning bell.
Nightmare at Sea

Bad News

For the next 37 seconds, Fleet stood frozen as a mountain of ice came closer. The crew tried to steer the ship out of the way. But it was no use. At 11:40 p.m. on April 14, 1912, the iceberg tore a hole in the side of the Titanic. Slowly, the huge unsinkable ship started to sink.

Word of the accident spread quickly through the ship. The passengers were confused but not upset. They thought this was a new adventure. A few crew members knew better. The ship's carpenter had been near the bottom of the ship when the 80-foot iceberg hit. He rushed upstairs.

"She's taking water fast!" he called to Captain Edward Smith.

A mail clerk also came running. He announced that water was filling the mail room.

Captain Smith went to check the sixteen watertight compartments at the bottom of the ship. These rooms were supposed to keep the ship from sinking. The Titanic should float even if three or four of them filled with water.

Captain Smith found that five of the rooms had been torn open by the iceberg. They were now hopelessly flooded. Water was filling the other rooms as well. There was no doubt about it. The Titanic was going down.

Women and Children First

On the deck, crew members hurried to get out the lifeboats. No one knew exactly what to do. They had never had a practice drill. It had not seemed necessary. Finally, they got the first boat ready. Captain Smith called out the order.

"Women and children first!"
But most women and children refused to go. They felt safer staying on the big warm ship. They didn't want to go out into the cold darkness. They didn't trust the small boats. Many still did not believe the ship was in danger.

“Hurry! Hurry! There's no time to lose!” a crew member shouted.

But few people listened to him. An hour later, only 20 people were in the first lifeboat. There was room for 45 more people, but the crew could wait no longer. At 12:45 A.M., they lowered the half-empty lifeboat into the water.

Cowards and Heroes

Finally, people understood that the Titanic was sinking. Suddenly, everyone wanted to get into a lifeboat. But there were not enough to go around. There were 2,207 people on the Titanic. But there were only enough lifeboats for 1,178 people.
The shortage of lifeboats brought out the worst in some people. One man snuck into a lifeboat dressed as a woman. Others pushed ahead of mothers and small children. Some men had to be dragged kicking and screaming out of the boats.

But while some people became cowards, others became heroes.

Dr. W.T. Minahan helped his wife into a boat, then stepped back to make room for someone else. “Be brave,” he called to his wife. “No matter what happens, be brave.”

Someone else tried to help an older man named Isidor Straus into a lifeboat. But Straus shook his head.

“I will not go before the other men,” he said.

Mrs. Straus, like many other women, refused to leave her husband. “We have been living together for many years,” she said. “Where you go, I go.” Then the two of them sat down in deck chairs to wait for the end together.

A Sad End

On the deck, the ship’s band played. None of these men had tried to leave. They felt it was their duty to stay with the ship. They did their best to comfort the passengers. They played loud, cheerful music.

By 2:00 A.M., all of the lifeboats were in the water. There wasn’t much hope left for those still on the ship. Some jumped into the water. They tried to swim out to the lifeboats. A few made it. But most quickly died in the freezing water.

One swimmer looked back and saw Captain Smith standing on the ship. The water was up to his waist.
The bow of the ship was underwater. The stern was up in the air.

At 2:18 A.M. with the band still playing, the stern of the Titanic slid into the water. The great ship sank to the bottom of the ocean, taking more than 1,500 people with it.

A Call for Help

The Titanic's radio operator had called for help on the ship's radio. Several ships heard the cries for help and sailed to her as fast as they could.

The Carpathia was the first ship to arrive. Its crew began picking up the people in the lifeboats at 4:10 A.M. Of the 2,207 people who had sailed on the Titanic, only 711 were still alive.

The Titanic became a legend. For 73 years, people searched for the remains of the great ship. Finally, on September 1, 1985, a team of French and American explorers found her. The rusty wreck lay two miles under the Atlantic Ocean. She was no longer the beautiful and graceful ship she had once been.
Appendix K

Backwards Ape Learning Triangle

Effort Progress Achievement
Appendix L

Reading Detective Magnifying Glass

Mary Smith