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STRATEGY INSTRUCTION AND EXPOSITORY WRITING IN AN INCLUSIVE GRADE SIX/SEVEN CLASSROOM: A TEACHER'S PERSPECTIVE

by

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ABSTRACT

This study, conducted by the classroom teacher, examined the effectiveness of a strategy instruction approach for a note-taking/report-writing unit in an inclusive grade 6/7 class (n=25). Because of the range of abilities, students moved individually through the instructional unit. First, all students were explicitly taught a note-taking strategy requiring them to use their own words to restate the main ideas and supporting details of expository paragraphs. As students reached mastery in note-taking, a second strategy was introduced requiring students to choose independently a topic, take notes, and reorganise their notes to write a report. Although this study was primarily qualitative, t-tests were done to compare preassessment note-taking results to postassessment note-taking results. Students made significant gains from preassessment to postassessment. In addition, when the postassessment results of students with LD were compared to the rest of the class, no significant differences were found. This suggests that a strategy instruction approach allowed students with LD to keep pace with their regular peers. As students' report writing experiences varied, a qualitative approach was used to explore: students' performance based on end-product and evidence of self-regulation and metacognition; effective instructional strategies (such as discourse development, modelling, scaffolding, and providing feedback); and the role of the classroom teacher in research.

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DEDICATION

I dedicate this thesis to my family. You were always near and dear to my heart no matter how absent I was in body and mind.

To my parents, Morfydd and Volker Kroecher, both retired teachers:

Thank you, Mom, for modeling to me a love of reading and literature.
Thank you, Dad, for modeling to me logical reasoning and passionate debate.
This thesis is for all the encouragement and support you have given me over the years.

To my four daughters, Ashleen, Rhiannon, Emma, and Hannah:

You are unique and amazing and help me
see the world in wonderful new ways every day.
This thesis is for your patience when letting me work and for your demands, kisses, and cuddles that reminded me it was time for a "mommy day."

And to my husband, David Paterson:

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You trusted me, befriended me, and forgave me my failings as a teacher.

To my fellow colleagues at Blackburn Elementary:

Who, over the years, were subjected to and tolerated many extra minutes of staff meetings as I voiced my emerging beliefs as a teacher.

CHAPTER ONE

Introduction

Inclusive Classrooms, Learning Disabilities, and Strategy Instruction

> Across the nation, anxiety about education runs deep, none more powerful than the issue of literacy. Schools are the institution set up to teach reading and writing and the subjects rooted in these activities, including science, social studies, literature, and mathematics. Despite intense effort, schools are seen as failing to meet those obligations. (Blank, 2002, p.151)

Many difficulties in public education arise because of the demands of the general education, or inclusive, classroom in which a wide range of students is taught by a single teacher. The philosophy of inclusion is not an issue in this paper. Rather, my question is: How can a single classroom teacher effectively meet the needs every day of a large body of students? Fuchs and Fuchs (1998), from their observations of inclusive classrooms that included students with learning disabilities (LD), found that most adaptations for students with LD were not based on alternative instructional methods. Instead, the adaptations consisted of reduced expectations. They concluded that a "conventional" inclusive classroom may not be the best setting to meet the needs of students with learning difficulties (p.31). I suggest that a conventional inclusive classroom, at the same time, may not be challenging enough for students who do not have learning difficulties.

A model of instruction called *strategy instruction* has emerged, primarily within the learning disability literature, as a potential model for the inclusive classroom and its multilevel learners. Most simply, strategy instruction is instruction that focuses primarily on the teaching of learning strategies -- processes of learning or task completion -- rather than content. The central theoretical

principle on which strategy instruction is based is that students who develop awareness and control of the cognitive processes required in school will learn more effectively. A second critical idea is that students with LD, by definition, have greater difficulty developing and employing particular cognitive processes for specific domains of school learning. Thus, strategy instruction shows particular promise for facilitating the learning of students with LD.

Many of the studies on strategy instruction have been conducted in small, special education settings isolated from the inclusive classroom; however, a developing body of research, to which I hope to contribute, examines effective methods within a strategy instruction model that can be implemented by the classroom teacher within an inclusive classroom. Strategy instruction interventions have focused mostly on reading, writing, mathematics, and organisation in general. My focus in this study is writing.

Writers With Learning Disabilities

Writers with LD tend to have more simplified, less articulate views of what writing involves (Graham, Schwartz, & MacArthur, 1993). Writers with LD are less knowledgeable about strategies for developing and organising ideas, have less ability to control the writing process, and have difficulty monitoring the quality of their compositions (Englert, Raphael, Fear, & Anderson, 1988). Their approach to revising consists of haphazardly correcting mechanical errors, substituting one word for another, and concentrating on neatness. In fact, difficulties with the mechanics of writing are believed to interfere with the higher-order cognitive demands of writing (MacArthur, Graham, & Schwartz, 1991).

Research on writing in the 1970s lead to a compilation of the common mechanical problems found in the writing of students with LD. Research on writing in the 80s and 90s was influenced

by cognitive psychology resulting in an interest in writing intervention research (Wong, Butler, Ficzere, & Kuperis, 1996) that often focussed on the writing process and distinctions between genres. This interest in the writing process has lead to an emphasis on cognitive and metacognitive (thinking about thinking) processes required in writing and a de-emphasis on lower-order mechanical difficulties (Wong, 2000). Metacognition is required to produce good writing because writing is an intentional, complex, problem-solving process that requires students to self-regulate by independently planning, drafting, monitoring, and revising their writing (Graham, Harris, & Troia, 2000; MacArthur, Graham, Schwartz & Schafer, 1995). Instructional methods must be available to all students to develop both the necessary cognitive and metacognitive components of the writing process that create strategic writers (Sturm & Koppenhaver, 2000). Strategy instruction is one cognitive-based instructional approach designed to enhance student learning -- particularly the learning of students with LD -- across the academic curriculum including writing. As writing pervades all content areas and most academic tasks, improving students' writing, regardless of each student's ability, can lead to overall academic improvement (Mothus, 1997).

Mothus's (1997, 2001) research on reading comprehension has yielded a strategy for expository writing. She obtained impressive reading comprehension gains in junior high school students with reading disabilities (Mothus, 1997) using the Paraphrasing Strategy intervention developed by Schumaker, Denton, and Deshler (1984). The Paraphrasing Strategy introduces the acronym RAP (*Read, Ask, Put*) to prompt students to *read* a paragraph, *ask* themselves what the main idea and supporting details are, and then *put* the main and supporting details in their own words. This strategy not only allowed students to process information they read in a meaningful way (Ellis & Graves, 1989) but became a note-taking strategy deterring plagiarism. Mothus then

developed a variation of the RAP Strategy to provide a three step process to writing essays without plagiarising. The name of this strategy is a reversal of the RAP acronym. The PAR (*Put, Ask, Record*) Strategy requires students to *put* details into categories, *ask* what the main ideas are, and *record* the main idea and supporting details in paragraphs using their own words. In a later post hoc study (Mothus, 2001), Mothus found that in using the PAR Strategy, grade eight students with learning disabilities learned to write essays using the customary five paragraph essay construction.

To continue this line of research, Mothus along with her colleague, Lapadat, received a British Columbia Ministry of Education grant to investigate the classroom structures and teacher support required to enhance student self-regulation during writing strategy instruction. The ultimate purpose of this research is to refine and share the instruction for broader implementation (Mothus, Lapadat, Struthers, Fisher, & Paterson, 2002). My study falls within this larger program of research and was a trial implementation of the RAP and PAR Strategies within an inclusive middle years classroom setting.

Purpose of the Study

My purpose in conducting this study is to contribute to the strategy instruction literature by teaching, evaluating, and reflecting upon a note-taking/report-writing unit that integrates the principles of strategy instruction and the principles of writing as a process. My first goal was to monitor, analyze, and reflect upon my Grade 6/7 students' progress during note-taking activities, class discussions, and report-writing activities. My second goal was to document my experiences as an inclusive classroom teacher and to align my own experiences against the existing body of strategy instruction literature.

Core to my note-taking/report-writing unit is the Paraphrasing Strategy developed by Schumaker et al. (1984) and modified by Mothus (1997, 2001; Mothus et al., 2002) to become the RAP and PAR Strategies mentioned earlier. Using the RAP Strategy my students translated expository text using their own words to create a set of nonplagiarised notes. Secondly, the PAR Strategy prompted students to reorganise their notes to write an original report. By developing the idea that writing is a process, opportunity was given to students to apply their knowledge of the RAP and PAR Strategies independently as report-writers.

Once strategy instruction is taken from an experimental setting into the classroom, the regular classroom teacher is viewed as the critical element in the successful implementation of a strategy instruction model. Kline, Deshler, and Schumaker (1992) are interested in the factors that differentiate teachers on a continuum of either successfully enacting a strategy instruction model or completely rejecting strategy instruction. These researchers recognize that teachers and researchers together should be highly involved in research and view this partnership as core to the refinement and, perhaps, future widespread adoption of strategy instruction. Thus, an important context of this study is that it is action research -- as I was both teacher and researcher within the naturalistic setting of my classroom -- supported by the guidance and scrutiny of two external researchers (Lapadat, 2000).

My Perspective

The process of conducting this study, researching the literature, and writing this thesis was a dynamic exercise. It was my largest professional and academic challenge to date, required my most intense thinking, and has transformed me into the teacher I am today. The qualitative nature of my study allowed me to adapt, invent, and redefine myself as a teacher many times over. My

efforts and learning were what Borkowski (1992) views as an essential component to effective strategy instruction -- a teacher's active construction of her working model through experience. In coping with the literature, enacting various teaching strategies, and trying to capture and present a meaningful narrative of my experiences, my epistemological awakening occurred. To be true to my learning, it is imperative that I speak of paradigms -- belief systems or world views. I believe teachers operate under an eclectic mix of theories and practices, experiences and intuitions that frame their personal paradigms. Secondly, I believe a better understanding of two powerful paradigms, reductionism and constructivism, driving educational praxis today helped me better understand my decision making -- including decisions I later came to regret.

The broad themes of explicit instruction, teaching paradigms, classroom discourse, metacognition, and effective teaching practices ground the results and the discussion in this paper. However, it is important to remember while reading my work, that my perspective is personal and comes from my love of teaching, my ideals, my experiences, my concerns with the current education system, and my ultimate belief that reform in education is a grassroots movement requiring the cohesion of research and practice.

CHAPTER TWO

Literature Review

Rationale

Sparked, in part, by globalisation, an accountability movement in education has spurred on the need for a well educated population. When children are viewed as "raw material for international competition" (Sleeter, 1986, p. 52), academic performance is criticised as being too low, and standards are raised. Some children cannot keep up. Historically, rather than blaming the education system or the raised standards themselves, deficits are found within the teachers and the students (Sleeter, 1986). Researchers such as Gersten, Carnine, and Woodward (1987) view teachers as uncompromising, lacking an understanding of current research, and relying upon "folk wisdom" (p. 52). Students are labelled as culturally deprived, emotionally disturbed, slow, or learning disabled.

The current trend in British Columbia is to place a variety of learners, including those labelled as having special needs, in inclusive classrooms. Although the rhetoric of inclusion states that each student is unique, accommodating differences does not appear inherent in school organization, materials acquisition, assessments, or budgets. The irony is, regardless of different cultural backgrounds, different experiences, different knowledge, different cognitive functioning, different past academic history, and different needs, all students are expected to learn similarly (Palmer & Goetz, 1988). In addition, I suggest, that teachers are driven to teach similarly because of prescribed learning outcomes, large class sizes, and the push for improved standards.

For many students, an emphasis on improved standards creates what Deshler and

Schumaker (1993) describe as functional exclusion. When this occurs, the public school system disables rather than enables many students (Englert, Berry, & Dunsmore, 2001). Some students may benefit little in the inclusive classroom because of the mismatch between how and what a student learns and the expectations of the mainstream setting (Deshler & Schumaker, 1993). Many students exhibiting difficulties may be working hard, but their efforts and learning are not reflected in their overall academic performance (Meltzer, Katzir-Cohen, Miller, & Roditi, 2001). Functional exclusion specifically may impact a student's ability to participate in a core of all academics: writing.

Writing

Each student has the right to effective writing instruction (Palincsar, David, Winn, & Stevens, 1991). Yet, Anderson, Raphael, Englert, and Stevens (1992) argue that too little time is given to meaningful, purposeful writing in the middle school grades, and too much attention is spent on the mechanics of writing such as spelling and punctuation. A second concern is that there may be an overemphasis on content instruction (delivery of facts) and an underemphasis on developing text structure awareness and effective writing strategies. Content instruction compounds the problem for students who may not write at grade level (Deshler & Schumaker, 1993). Specifically, Deshler and Schumaker (1988) believe that when delivering content, too little time is given to developing cognitive and metacognitive processes. *Cognition* refers to the human system of mental processes entailed in thought. *Metacognition* refers to awareness of and control over cognition, including processes of monitoring, reflecting on, and regulating cognition. Both cognitive and metacognitive processes are employed by effective writers (Singer, 1995; Sturm & Koppenhaver, 2000).

Thus, students with writing disabilities are doubly disadvantaged: they are not given writing instruction that meets their needs for learning writing processes or strategies, and they are required to use a means of expression for content knowledge that does not enable them to effectively display what they know.

Strategy Instruction

Strategy instruction -- teaching students to enact necessary cognitive operations beyond mere processes to solve problems or to complete tasks (Borkowski & Muthukrishna, 1992; Kline et al., 1992) -- has emerged as a potential model to improve students' learning (De La Paz, 1999a, 1999b; Ellis, 1986; Levy, 1996). On one level, strategy instruction can be viewed as teaching students how to adapt to the rigours of the current public school system, but on the most ideal level can be viewed as empowering students to perform effectively anywhere, anytime. Empirical evidence from three decades of research supports that strategies can be taught to students to improve learning (De La Paz, 1997a, 1997b; Englert, Raphael, Anderson, Anthony, & Stevens, 1992; Graham et al., 2000; Kline et al., 1992; Mothus & Lapadat, 2003; Wong, 2000). Recently, strategy instruction research has been applied to the inclusive classroom (Deschler & Schumaker, 1993); however, much of the strategy instruction research has been conducted in either controlled laboratories with low student to teacher ratios such as special education settings or within the classroom with the additional support of a special education teacher (Mothus & Lapadat, 2003). Thus, Kline et al. (1992) describe research in strategy instruction as a relatively young field in which further research is required to analyze what variables improve or act as barriers to effective strategy instruction.

Exposition

Although much of the research of writing instruction focuses on narrative genres, there is a body of research that examines the teaching of expository writing in inclusive classrooms at the Grade 6/7 level that combines strategy instruction and a writing process approach. A combination of explicit, direct instruction and a process approach can direct students' attention to the qualities of effective writing (McCormick, Busching, & Potter, 1992). This is particularly important in the middle school years when writing successfully may become more difficult for students. By Grade 6, students are expected to read and produce more expository genres as the emphasis shifts away from narrative even though they likely have had less experience with exposition and its text structures (Englert, Stewart, & Hiebert, 1988; Blachowicz, 1994).

Theoretical Framework

Reductionism is a theoretical approach which, when applied to teaching and learning, breaks skills, processes, concepts, and ideas into parts or, reduces them, so as to better understand the whole. The reductionist paradigm remains the dominant force within education (Poplin, 1988a, 1988b), and theorists who hold this perspective maintain the traditional view that there is a specific, predetermined body of knowledge that must be learned. It is the teacher who controls the learning and has the expertise and, therefore, the authority to pass that knowledge on to the students. Learners are viewed as having a fixed intelligence (Mayer, 1988) that can be measured by the accuracy of an end product. Thus, forms of teaching and learning can be viewed as being right or wrong. One negative implication is that a pervasive distrust has developed in certain circles that effective teaching and learning strategies will not

develop naturally unless rigid standards are developed and tightly monitored (Poplin, 1988a).

In contrast, constructivism is a process of learning whereby new meanings are created (constructed) by the learners within the context of their current knowledge. Therefore, learning can be viewed as personally and culturally relevant (Poplin, 1988b). Within this paradigm, teachers take into account the needs, interests and questions of the students by recognizing that students can take an active part in their learning. This puts the teacher and the student in a special relationship in which the student is seen as "influencing the teacher while being influenced by the teacher" (Erickson, 1996, pp. 29-30).

Poplin (1988b) coined the term *holistic constructivism* for the existing paradigm that also includes the feelings and intuition of the learner. She believes that learners' characteristics such as expectations, interest, self-concept, and trust produce a tremendous force within a classroom that is not always accounted for in learning theories. In a succinct manner, Poplin summarizes twelve principles of learning based on structuralist, constructivist, and holistic thought which she believes characterise the holistic constructivist paradigm: (a) the whole learning is greater than the parts of the learning, (b) learning adds new knowledge and changes old knowledge, (c) learning is selected and determined by the learner, (d) the learner is an active meaning-maker, (e) what one learns is determined by what one knows, (f) accurate form is developed in a learner after that form is meaningful, (g) learning can be seen as understanding the whole, gaining precision by studying the parts, and then recreating the whole, (h) errors promote learning, (i) passion and interest are a part of learning, (j) learners learn from trusted others, (k) meaningful experiences promote learning, and (l) learning is a lifelong and inherent human activity.

What is unstated in Poplin's paradigm (1988b) is the view that learners learn within a social context. A social interactionist, such as Vygotsky (1986), described language use as the key to learning. At first, language is a communication tool for a child's social interaction. Gradually, through these social interactions, the child appropriates and internalises the "discourses of her social world" (Hicks, 1996b, p.107) to become a thinking, meaning-making, reflecting, valuing, acting member of society. As the child is able to verbalize intentions, the language begins to structure the child's thoughts and activities at a cognitive level (Vygotsky, 1986). This process can be seen as cognitively constructivist in nature because the child actively interacts with the environment and generates hypotheses to make sense of the world. In addition, the child's social interactions with more expert others may cause a "cognitive conflict" requiring a realignment of that child's thinking which extends the child's knowledge beyond what may have been discovered alone (Pappas, Kiefer, & Levstik, 1999; Vygotsky, 1986). This learning theory has been labelled sociocognitive learning theory. Because sociocognitive learning theory focuses on social interactions and the use of language that stimulates cognitive development, this view profoundly affects how classroom environments, relationships between teachers and students, and relationships between students and students can be perceived and studied (Hicks, 1996a). Although, it is beyond the scope of this study to expand fully upon sociocognitive learning theory, it is important to note that classrooms may be viewed as unique social communities that recognize and use specific discourse genres that are not mimicked in the real world (Hicks, 1996b). Teachers have the responsibility to structure activities that provide all children, coming from a multitude of backgrounds, with access to the language of education that will help to establish such

intellectual practices as hypothesising, researching, forming opinions, and problem solving (Hogelucht, 1994; O'Connor & Michaels, 1996). Teachers recognize that students must engage in purposeful, social activities that allow them to position their own thinking alongside the opinions, interpretations, and solutions of others (O'Connor & Michaels, 1996).

If learning is an inherent activity of the individual and is enhanced by social interactions such as can be assumed occurs in every classroom, why is it that some students have difficulty with the school culture and its expectations? Why are some students not making academic progress? Since the 1960s, the field of learning disabilities has developed extensively through research in a wide range of domains, and it is within the field of learning disabilities that strategy instruction has had its strongest impetus.

Learning Disabilities

The Learning Disabilities Association of Canada (2002) defines learning disabilities as:

> A number of disorders which may affect the acquisition, organisation, retention, understanding or use of verbal or non-verbal information. These disorders affect learning in individuals who otherwise demonstrate at least average abilities essential for thinking and/or reasoning. As such, learning disabilities are distinct from global intellectual deficiency. Learning disabilities result from impairment in one or more processes related to perceiving, thinking, remembering, or learning. These include, but are not limited to: language processing, phonological processing; memory and attention; and executive functions (e.g. planning and decision-making). Learning disabilities range in severity and may interfere with the acquisition and use of one or more of the following: oral language (e.g. listening, speaking, understanding); reading

> (e.g. decoding, phonetic knowledge, word recognition comprehension); written language (e.g. spelling and written expression); and mathematics (e.g. computation, problem solving).... Learning disabilities are due to genetic and/or neurobiological factors or injury that alters brain functioning in a manner which affects one or more processes related to learning. These disorders are not due primarily to hearing and/or visual problems, socio-economic factors, cultural or linguistic differences, lack of motivation or ineffective teaching, although these factors may further complicate the challenges faced by individuals with learning disabilities. (pp. 1-2)

Establishing clear criteria to identify students with LD is an ongoing debate because of a long history of varied definitions and classifications (Kahmi, 1998; Shaw, Cullen, McGuire, & Brinckerhoff, 1995). Kahmi (1998) explains that different procedures and criteria are used depending upon whether the objectives are for educational or research purposes. There is also the difficulty of differentiating students with learning disabilities from low achieving students (Gresham, Macmillan, & Bocian, 1996; Ysseldyke, Algozzine, Shinn, & McGue, 1982). It appears that students with learning disabilities cannot be distinguished on the basis of measures of academic history, behaviour problems, or social competence (Gresham et al., 1996).

Wong (1996), however, makes the point that, despite the ongoing debate between experts within the field of learning disabilities, observations of students with LD have remained consistent ever since they have begun to be documented. Johnson and Lapadat (2000) list a set of characteristics that summarize learning difficulties potentially exhibited by students with LD based on their review of the literature. The student may:

(a) have slow early language development, (b) process language slowly, (c) have poor cognitive processing, (d) find abstract concepts difficult, (e) struggle with comprehension, (f) have poor selective attention, (g) be impulsive, (h) have difficulty storing and retrieving linguistic information, (i) have organisational difficulties, (j) have difficulty sequencing -- especially instructions, (k) have difficulty generalising from one activity or situation to another, (l) perform or behave differently from day to day, and (m) develop secondary mental health or social problems. Given this long list of challenges to learning, it is not surprising that students with LD through repeated academic failure may develop such secondary characteristics as lack of motivation, low sense of self-efficacy, and learned helplessness (Wong, 1996).

Although the definition of learning disabilities by the Learning Disabilities Association of Canada (2002) states that ineffective teaching is not a cause of learning disabilities, such teaching can exacerbate students' difficulties at school. McIntosh, Vaughn, Schumm, Haager, and Lee (1993) observed that students with LD were treated much like other students and were operating under a "you don't bother me, and I won't bother you" understanding. When interventions do occur, they are typically attempts to modify "misbehaviours" or lack of motivation through counselling, or students with LD receive learning assistance to practice basic skills or to complete required curriculum. The difficulty with these interventions, although they are well established in the school system, is that they may not focus on the cognitive processes that could potentially improve the achievement of students with LD, who fall further and further behind their non-LD peers (Mothus, 1997). Poplin (1988a, 1988b) argues that the problem with past and current disabilities models is that they are deficit models

which focus on the weaknesses, rather than the strengths, of the learner. This means that students practice a lot of what they do not do well rather than being encouraged to use their strengths as a starting point for future learning. This can be very demoralising for many students with LD who have been and continue to be punished, in some form, for inappropriate behaviours and incomplete or substandard assignments that may have little to do with disobedience. She argues that society: (a) has standards for conformity that are perpetuated -- not questioned or altered -- within the public school system, (b) has unreasonable expectations of how and what its children should learn, and (c) uses counterproductive methods for rewarding and punishing learning. Unfortunately, because widespread educational reform takes time, effective methods of instruction need to be implemented promptly at the classroom level to reduce the cycle of failure currently experienced by many students.

Strategy Instruction

Research over the past three decades in cognitive and educational psychology has led to increased knowledge about learning and how learning can be improved through instruction (Derry, 1990). Because of research completed in the learning disabilities field, advancements have been made to support strategy instruction models that provide students with practical, meaningful ways to acquire, store, and access knowledge (Ellis, 1993; Ellis & Lenz, 1987; Hallenbeck, 2002; Pressley, 1995; Wong, 1993).

The teaching of *study skills* has had a long history in education; yet, published research describing the value of study skills instruction only gained momentum in the 1960s. Initially, the skills themselves were the focus, regardless of the learner's ability and background. More recently, the focus has moved to the cognitive and metacognitive activity of the learner. In

current literature, study skills are researched and discussed in terms of learning strategies, the context and generalisability of instruction, and student self-regulation (Hattie, Biggs, & Purdie, 1996).

Strategy instruction is broadly interpreted in the literature. In some cases, strategy instruction has meant teaching specific behaviours on a need-to-know basis. A more current view of strategy instruction is that it is a model intended to permeate all instruction (Borkowski & Muthukrishna, 1992). Generally, the goal of strategy instruction is to improve the learning, problem solving, and academic performance of all students; however, strategy instruction has been especially beneficial for those students who are not very strategic in their learning processes including students with LD who do not implicitly discern and develop learning strategies as do their regular peers.

Information Processing and Knowledge

Ideally, all students should learn to become aware of and to gain control over their thought processes (Kline et al., 1992). However, strategy instruction has its roots in the general failure of the education system to encourage students to think at a time when society demands that students process large amounts of information effectively (Kline et al., 1992; Mayer, 1988).

Information processing is a term for the theories that focus on how learners actively internalise information from their environment. Working memory, organisation of long-term memory, retrieval of information, meaningful learning, and problem solving are concepts that are emphasised. Information is often categorised as three levels of knowledge: *declarative knowledge, procedural knowledge*, and *conditional knowledge*. Declarative knowledge is

facts, procedural knowledge is the steps of processes, and conditional knowledge, is the why and when to apply declarative and procedural knowledge. Learners develop as they construct, recall, and reorganise these three types of knowledge more effectively and strategically (Pressley, 1995). Many students have inert, declarative knowledge, which can be accessed when prompted but which they cannot apply in meaningful ways to strategic learning and problem solving (Palincsar et al. (1991). Traditionally, whenever there is a thrust to improve standards, programs are put in place that tend to focus on rote improvement of basic skills without simultaneously focussing on strategies that help students manipulate, remember, understand, and express these basic skills (Ellis & Lenz, 1987; Weinstein, Zimmermann, & Palmer, 1988).

Skilful Versus Strategic Learners

Alexander, Graham, and Harris (1998) draw a clear distinction between skilful learners and strategic learners. Skilful learners recall facts, apply algorithms, and complete tasks automatically through rote learning. These skilful learners, however, may be neither metacognitively aware nor strategic. They may perform tasks or solve problems routinely with little thought or reflection and without the ability to generalise the skills to new situations. On the other hand, strategic learners, or good information processors, are thoughtful, reflective problem solvers who can manipulate knowledge, create procedures, and generalise past learning to new situations. Borkowski and Muthukrishna (1992) summarise ten characteristics of the strategic learner that tend to enhance performance. The strategic learner: (a) knows many learning strategies, (b) understands the importance of learning strategies, (c) selects, monitors, and reflects upon learning strategies, (d) views learning as incremental, (e) believes

in effort, (f) is intrinsically motivated to complete tasks and master goals, (g) accepts failure as part of the learning experience, (h) perceives self in future time frames for goal development, (i) knows and has access to a wide variety of knowledge, and (j) is supported as a learner both in school and out. Alexander et al. (1998) state that learners must be given adequate time to develop both basic skills and strategies in order to enhance their learning. Investigations of individual differences during information processing and problem solving have led to strategy instruction models designed to teach students, especially those with learning difficulties, cognitive strategies to improve learning (Wong, 1993).

The Interrelatedness of Strategies, Metacognition, and Self Regulation

Discrepant definitions exist in the field of strategy instruction; therefore, it is necessary to define and clarify the interrelatedness of the terms *strategy*, *metacognition*, *executive functions*, and *self-regulation* as they are used in the context of this study. *Learning strategies,* planned procedures that students enact to complete academic tasks,have various purposes (Mayer, 1988). Three categories of learning strategies are cognitive, metacognitive, and affective. Cognitive strategies are those that focus on developing or enhancing particular task-related skills, such as note-taking, paraphrasing, or summarizing. Metacognitive strategies are those that focus on the management of one's performance and learning such as planning, monitoring, or evaluating. Affective strategies are those that focus on motivation, self-efficacy, and self-concept (Hattie et al., 1996). Strategies can be further categorised as having a broad or specific application (Alexander et al., 1998). A general learning strategy, such as note-taking, is one that can be applied to a wide range of situations and content areas. A domain-specific learning strategy is applied to a content area such as note-taking for a

report in social studies. A task-specific learning strategy is applied to a single learning outcome such as recording the main idea and three supporting details of a paragraph without plagiarising.

Some authors refer to the individual steps of a strategy as *strategies* which may not fully distinguish the cognitive processing aspect of a learning strategy from the behavioural enactment of the strategy. The term *tactic*, although infrequently used, refers to a specific skill within a strategy that a learner enacts to complete a task (Derry, 1990; Hattie et al., 1996; Schmeck, 1988). For example, one student's report-writing strategy might begin with the tactic of listing key words or phrases while reading research passages while a second student might prefer to highlight the key words directly onto a copy of the passage. Schmeck summarizes the interconnectedness of strategies and tactics: "a learning strategy is a higher level cluster of learning tactics that work together to produce a unified learning outcome" (p. 171). Schmeck criticises strategy instruction models that focus only on specific tactics rather than general strategies, describing the tactics as "short term props" (p. 127) that may be incompatible with the learning style of the student. However, the reality is that there are many instances when a student, in our present school system, may require effective rote learning tactics -- especially in the content subjects. I believe it would be a disservice not to provide students with instruction on both general learning strategies and specific tactics (Deshler & Schumaker, 1988).

Cognition, or thought, is a system of mental processes such as memory, perception, reason, and comprehension. Nelson (1999) describes *metacognition* as the executive element of cognition. In simplest terms metacognition is thinking about thinking. More specifically,

metacognition is the controlling feature of cognition that monitors, regulates, and activates mental processes (Pesut, 1990). The prefix *meta* refers to the higher order of a cognitive process, and this higher order suggests a consciousness about the corresponding cognitive process (van Kleeck, 1994). Thus, metastrategy knowledge involves thinking about strategising, allows for control of the declarative and procedural knowledge related to strategising, and builds the conditional knowledge, the importance and purpose of enacting strategies (Graham & Harris, 1989a).

It is by learning to control cognitive and metacognitive operations that students become effective, insightful learners (Borkowski and Muthukrishna, 1992; Derry, 1990; Kline et al., 1992). Two integrated features that create a metacognitive system of control and monitoring are executive functions and self-regulation (Nelson, 1999; Singer & Bashir, 1999). *Executive functions* are the processes of decision-making, planning, goal-setting, and evaluating that determine which knowledge will be applied, which cognitive processes will be activated, and which strategies and tactics will be enacted. *Self-regulation* includes the thoughts learners have and the behaviours learners enact after a judgement of learning, or evaluation of success has occured (Nelson, 1999). For example, a learner encounters a task or a problem and enlists executive functions to determine an initial course of action. The learner may then realize the initial plan is not effective and may decide to change strategies, get help, change resources, take the assignment home for homework, or tell their partner, "Get to work!" Executive functions and self-regulation are an informed response to the setting, social interactions, the purpose of the task, and the difficulty of the task. Thus, the metacognitive system, which integrates "cognitive, motivational, personal, and situational characteristics" (Borkowski and

Muthukrishna, 1992, p. 483), determines how effectively a student will plan, employ, and evaluate strategies necessary for completing a task.

In order for students to develop the necessary control and monitoring of strategies, Borkowski and Muthukrishna (1992) believe the goal of strategy instruction ought to be metacognitive development rather than the superficial learning of the strategies themselves. In addition, Singer and Bashir (1999) believe that metacognition is mediated by language but recognize this is a developing theory. Based on Vygotsky's belief that speech is central to development, these researchers view students who are metacognitively aware as those who continually talk their way through strategies either covertly or overtly. The language students appropriate for themselves can be shaped by the social interactions in the classroom between the students and the teacher and the students and their peers.

A Working Model for Strategy Instruction

Kline et al. (1992) view strategy instruction, where the content of instruction is the strategies, as a non-traditional, complex approach to instruction based on a "significantly different instructional paradigm" (p. 400). The basic premise of strategy instruction is that teacher explanation of a strategy is followed by extensive student practice of that strategy. Borkowski and Muthukrishna (1992) describe a constructivist model of strategy instruction in which teachers are responsive to each student's needs and allow for collaboration, dialogue, and individual adaptations of strategies. This model counters those criticisms of strategy instruction that suggest that strategy instruction drills students in a manner that produces passivity and only minimal or short term gains. Although the interpretations of the nature of strategies and strategy instruction may vary, five principles of effective instruction consistently

emerge from the strategy instruction literature: (a) direct teaching, (b) scaffolding, (c) feedback, (d) student self-regulation, and (e) generalising applicability. Kline et al. (1992) outline seven methods of applying these five principles during strategy instruction: (a) a description of the strategy, (b) the conditions under which the strategy may be used, (c) a demonstration phase of the strategy, (d) a student practice phase of the strategy as it applies to academic tasks, (e) opportunities for student self-regulation, (f) interactions between teachers and students for feedback purposes, and (g) opportunities for students to generalise their knowledge of the strategy.

Direct Teaching

In the 1960s, a model called *direct instruction* was developed by Bereiter and Engelmann (cited by Gersten et al., 1987). Direct instruction comprises of six features: (a) explicit instruction of the steps of a task or process, (b) student mastery at each step, (c) corrections for student errors, (d) movement from teacher-directed activities toward independent work, (e) adequate, systematic practice with a range of examples, and (f) cumulative review of newly learned concepts. The features of direct instruction and strategy instruction overlap in the literature because of similarities such as cumulative review routines, mass practice, and teaching of all component skills to mastery, but Swanson (1992) has suggested a distinction. Direct instruction promotes convergent thinking by reducing tasks or process into sub-skills and discrete learning that students are intended to master before proceeding to the next sub-skill. Discussion of processes and the use of general rules tend to be minimal. The content of direct instruction is usually associated with declarative knowledge related to a subject area. Strategy instruction at its most ideal, on the other hand, encourages

divergent thinking by focusing on global skills and processes that students are intended to learn progressively as they become more strategic, effective learners.

Schunk (1993) states that effective strategy instruction requires four conditions to be met: (a) Students must understand how to apply a strategy, (b) Students must understand when to apply a strategy, (c) Students must believe that strategies improve performance, and (d) Students must believe that they can apply strategies effectively. These conditions can be met when students who are having difficulty proceeding on a task are directly taught the declarative, procedural, and conditional knowledge necessary to employing the strategies required to complete the task (Marzano & Pickering, 1997). Declarative knowledge determines the student's ability to describe the purpose and steps of the learning strategy. Procedural knowledge determines the student's ability to successfully perform the tactics and behaviours that fulfill a strategy. Conditional knowledge, the link to metacognition, is understanding the context of the strategy and determines the student's ability to decide when to use a strategy and when to generalise or adapt it to other purposes and situations. Conditional knowledge is described by Alexander et al. (1998) as knowing that wilful and effortful strategy enactment is essential to and facilitates learning.

Two instructional practices suggested in the strategy instruction literature to help students learn necessary declarative, procedural, and conditional knowledge of strategy use are *modelling* the strategy and *verbalising* the accompanying inner dialogues and thought processes (Palincsar et al., 1991). Modelling and verbalising thoughts are a means of showing rather than telling students how to enact a strategy as a variation of direct instruction. Questions, prompts, reasons, and positive self-statements verbalised aloud by the teacher as

she enacts the strategy for her students, reveal to the students how someone else thinks and solves problems. The whole point is to make explicit what ordinarily may be kept hidden from many students. This is the opportunity for the teacher to expose students to metacognitive reasoning and positive self-reinforcement that can be referred to as students work together or as the teacher circulates to scaffold individual student performance (Deshler & Schumaker, 1988).

Scaffolding

Scaffolding, or supporting the learner, is based on the premise that children learn through social interactions. In school, students are continually learning new ways to behave, act strategically, and speak based on what they observe and hear. Traditionally, the teacher is viewed as the expert who provides direct instruction and scaffolding to the student and then reduces support as the student becomes more adept and independent (Palincsar et al., 1991). However, scaffolding, when viewed only as an adult-directed activity, has been criticised by some constructivists because of the lack of emphasis placed on the potential role of the student to secure scaffolding, to interact during scaffolding, or to provide the scaffolding (Englert et al., 2001; Stone, 1998, 2002). As students are viewed as wilful, active agents in their own learning, an alternative view of scaffolding is that it can be a bi-directional or even multi-directional process of communication. Ideally, during scaffolding, participants seek to gain a mutual perspective about what the novice truly understands and how the expert can actually help. Successful scaffolding has occured when the student has reconstructed information to become personally meaningful learning (Stone, 2002). Another alternative view of scaffolding is when a novice uses an expert to perform a task rather than just to provide

knowledge. In a case study of collaborative writing, Englert et al. (2001) found that a student with LD was able to implement writing practices that exceeded the level he could perform alone because, through a more expert student scribe, he was able to direct the writing. As a teacher I count on and encourage my students to work together and help each other. This often guarantees that students are getting a steady stream of feedback or are achieving a higher quality of end-product than they could produce working alone.

Feedback

Feedback, providing students with information about their performance, can be viewed as a feature of the scaffolding process. Feedback is intended to encourage students to rethink a problem or to adjust their performance to better match a set criteria or standard. Thus, Deshler and Schumaker (1988) describe feedback as potentially the most important feature of the instructional process. Traditionally, the teacher has been viewed as the necessary provider of feedback. The obvious difficulty with the *teacher is the ultimate authority* model is that one teacher cannot possibly provide personal, timely, one-on-one feedback exactly the moment it is required. As much scaffolding occurs rapidly through momentary interactions, acknowledgements, and redirections, it is the students themselves who are often in the best position to scaffold. Since frequent and explicit feedback during enactment of strategies has been observed to help a student adopt a strategy, methods for encouraging positive feedback between peers -- especially in environments where the student-teacher ratio is high -- are continually being explored (De La Paz, 1999a).

Self-regulation

Quality performance without continuous direct teacher feedback can occur when

students are encouraged to monitor their own performance. A method which has had positive results during strategy instruction is the use of prompts or *think sheets* which allow students to provide themselves and each other with feedback about their performance based on preestablished criteria or questions (Graham et al., 2000). The prompts encourage the students to reflect upon their own performance, compare it to a desired standard, and then regulate their performance accordingly. Triggering students' executive functions and self-regulation mechanisms encourages the metacognitive development required to solve a problem or complete a task. An instructional implication is that students must be given the opportunity to act independently (Clark, 1993). One difference between strategy instruction and traditional forms of instruction is the orientation of responsibility for learning. In traditional classrooms, teachers maintain the responsibility for directing student learning and behaviours. In an ideal classroom, Clark states that the responsibility for learning gradually must shift from the teacher to the students so they can independently apply and refine the declarative, procedural, and conditional knowledge they have. In acting independently, students are able to learn about themselves as learners, to learn to take risks, and to learn to generalise effective strategies to other situations.

Generalising Applicability

Providing explicit information, modelling, scaffolding, providing feedback, and encouraging self-regulation are the means to developing strategic learners. Students' progress as strategic learners can be gauged by their ability to effectively choose one tactic or strategy over another and to generalise learning strategies to a broad range of situations (Garner, 1988). Strategies are more likely to be enacted if their applicability and generalisability have

been made explicit, they have been developed through meaningful practice, and they have been used in a variety of situations (Derry, 1990). Deshler and Schumaker (1988) suggest that information that helps students generalise strategies is interspersed continuously across content and throughout all stages of instruction so that students are immersed in a strategic environment.

Even when effective instructional methods, such as those described above, are being implemented, some students may have more difficulties than others learning to behave strategically in the classroom. Students with learning disabilities may need far more time and scaffolding to achieve the advantages of strategy instruction (Alexander et al., 1998). In the previous section of this paper, I gave an overview of strategy instruction and related principles of effective instruction. What follows describes the impact that strategy instruction has had on the teaching of expository writing to students with and without learning difficulties.

Learning Disabilities, Strategy Instruction, and Writing Instruction

The development of cognitive and metacognitive processes are essential to becoming a skilled and effective writer because writing is "non-linear and consists of several overlapping subprocesses" (Englert & Raphael, 1988, p.513). Not only does writing become increasingly dominated by decontextualized, analytical language as a student proceeds through school, but it requires a distinctive set of thinking processes, skills, and strategies. Writing requires students to attend simultaneously to purpose, style, word choice, organization, cohesion, clarity, spelling, syntax, and handwriting (Singer, 1995; Sturm & Koppenhaver, 2000; Wallach & Butler, 1994). McCormick et al. (1992) suggest that writers attend to this broad range of writing elements by engaging in four cognitive processes known as the *writing process*:

planning, translating images into words, reviewing what has been written, and monitoring the writing process. Although most teachers acknowledge the writing process, approaches to teaching writing vary.

Writing Instruction

Researchers examining writing pedagogy have focussed on the writing process, higher-order thinking processes, and the social nature of writing. The resulting studies have done much to enhance writing instruction (Wong, 2000). Thus, by integrating the findings of these extensive bodies of research, a writing program can be developed in which students employ strategies to learn and manipulate declarative, procedural, and conditional information during meaningful, social writing tasks (Mothus, 2001).

Graham and Harris (1994) summarize four approaches to writing instruction: *traditional, whole language, writing process,* and *environmental.* The traditional approach is skills-based in which writing is reduced to such lessons as spelling, grammar, sentence writing, and paragraph writing. Writing often occurs through topics assigned by the teacher. Students are expected to complete drafts and good copies in isolation of others and then hand in their work to the teacher for final grading and corrective feedback.

The whole language approach, based on constructivist thought, develops writing through an integrated, natural process much like learning to speak. Thus, writing is learned through real life opportunities rather than drills. An emphasis on text structure and writing for a purpose means students are encouraged to make their own choices about what they will write. The classroom is viewed as a community of developing authors who are encouraged to share their work and guide each other.

The writing process approach, made popular and accessible by Atwell (1987), is similar to a whole language approach. Writing occurs within a social context with many opportunities to write. Characteristics of this approach, include brief mini-lessons related to writing skills and the steps of the writing process, daily writing, student-selected topics, a focus on what students know about their topics, group-sharing, peer-editing, publication of student writing, and individualized writing conferences based on the students' writing (Englert & Raphael, 1988).

Based on a review of studies, Graham and Harris (1994), suggest that students in whole language or writing process programmes develop a more "meaning" based understanding of writing, whereas, students in a traditional writing programme develop a more "skills" based understanding of writing. Some students make little progress in any of these three writing programmes. Thus, Graham and Harris view the environmental writing approach as superior to the other three approaches. The environmental approach, or a strategy instruction approach to writing, presents writing as a problem-solving activity. Students are provided with specific writing objectives such as, "Include a topic sentence in each paragraph of your report." By providing related materials and direct instruction within a social context, students engage in the cognitive processes central to the objective they are expected to eventually include in their own writing. Students develop as writers as they are able to consciously apply specific knowledge, criteria, and strategies to their own writing in an evaluative manner (McCormick et al., 1992).

Exposition

In a study on exposition, Englert and Thomas (1987) state that expository writing

contains specific word patterns and text structures that signal readers about the type of passages they are reading (explanation, compare/contrast, problem/solution, or description). When writing exposition, the problem that students begin to explore and solve as writers is how to recreate the distinct text structures of exposition and what language to use to get one's point across. Students need to be able to read and identify specific expository text structures so that they, in turn, can apply the necessary text structures to their writing. Englert and Thomas found that text structure knowledge is acquired developmentally. Grade 6/7 students were better able than Grade 3/4 students to recognize supporting details given a topic sentence (Raphael & Englert, 1990). Englert and Thomas suggest that strategy instruction alleviates the difficulties that students experience with the semantic and syntactic devices used in expository writing -- especially for those students with LD.

The Writer with a Learning Disability

Students with LD have writing profiles that differ from that of skilled writers and their end products can be described as retellings of "whatever comes to mind ... like an automated and encapsulated program, operating with minimal metacognitive control" (Sexton et al., 1998, p. 295). Wong (2000) describes five areas in which students with LD significantly vary from their non-LD peers. First, students with LD write very little because of the difficulty they have putting their ideas on paper. Second, writers with LD misconceive what good writing is and, therefore, overemphasise mechanics. This is corroborated by Graham et al. (1993) who conducted open-ended interviews of 39 Grade 5 to 8 students with LD and 39 students without LD. Third, writers with LD limit their vocabulary in favour of easily retrieved or easily spelled words. Fourth, students with LD make quantitatively more spelling,

punctuation, and grammatical errors than their non-LD counterparts. Fifth, writers with LD require more time to master a writing strategy. Englert et al. (1988) further characterise students with LD as lacking awareness of the communicative purpose of writing and as depending upon others to monitor the completion of compositions. Added to the difficulties listed above are the motivational problems caused by poor writing skills and exacerbated by avoidance techniques (MacArthur, Graham, Schwartz & Schafer, 1995; Mothus, 1997).

Not unexpectedly, students with LD have difficulty with the purpose, conventions, and features of exposition (Englert et al., 1988; Graham & Harris, 1989a, 1989b). To begin with, students with LD have difficulties understanding that a paragraph is made up of a logically ordered set of sentences containing a main idea and supporting details (Wong, 2000). Englert and Thomas (1987) found that students with LD performed significantly less well than their peers when generating supporting details given a topic sentence. In two studies (Thomas et al., 1987; Englert et al., 1988), paragraph prompts, reflecting different types of exposition, were provided to students with and without LD in Grades 3 and 6 who were then required to complete the paragraph. Generating main ideas was difficult for even the Grade 6s with most students scoring below 50% accuracy. Main idea scores declined for students with LD. Generating supporting details was more successful for all student with 63% accuracy but again students with LD scored less well.

Students with LD were also found to be less able to integrate knowledge from different sources choosing to list facts randomly rather than categorising them (Englert et al., 1988). In general, students with LD were more likely to repeat information, include irrelevancies, and focus on their personal interests (Thomas et al., 1987) rather than viewing their composition

as one to inform the reader about a topic systematically.

In a 1988 study, Englert et al. examined the knowledge of exposition of students with LD and the relationship between their writing performance and their knowledge. Students were asked to give their advice on the compositions of three hypothetical students. They found that metacognitive knowledge about the writing process and text organization was positively correlated to students' written performance. Compared to high achieving students, students with LD relied more on external cues such as the teacher saying the paper was finished, were less aware of modelled strategies, randomly listed rather than categorised facts, had a lack of knowledge about the writing process, and did not know how to integrate knowledge from different sources.

Englert and Thomas (1987) and Mothus (1997) believe that poor performance of students with LD can be, at least in part, attributed to a lack of exposure to and poor instruction of expository text. Thus, the rationale for strategy instruction is that explicit teaching of learning strategies may, over time, compensate for academic difficulties and improve metacognitive functioning (Ellis & Lenz, 1987) in writing of exposition. Through meta-analyses of research done over the past 30 years, Gersten and Baker (2001) and Swanson and Hoskyn (1998) found interventions used with students with LD focussing on writing and cognitive/metacognitive processes produced moderate gains overall. The researchers found that interventions that combined direct instruction and strategy instruction were the most effective. Because there is an abundance of research on writing instruction, I conclude this literature review by summarising only those studies I found that specifically implemented a strategy instruction model to teach expository writing to at least one group of

students with LD.

Teaching Expository Writing Through a Strategy Instruction Approach

In reviewing studies involving strategy instruction, writing, and students with LD, four research groups emerge. Collectively, these researchers offer an extensive range of research methodologies, instructional procedures, and theoretical views relevant to strategy instruction in writing. Three of the four groups are American researchers: (a) the University of Kansas Institute for Research in Learning Disabilities (KU-IRLD) group spearheaded by Ally and Deshler, (b) the Englert and Raphael group, and (c) the Graham and Harris group. The fourth group is a Canadian group led by Wong. What gives this body of research credence is the recognition, citations, and value each independent group places on the progress of each others' research. I conclude this section with the developing research of my mentors, Mothus and Lapadat, who have provided invaluable support and direction for my study which is a branch of their developing research. For each group, I summarize the instructional approach, outline particularly relevant studies, and then comment on their work as it helped inform my understandings of writing and strategy instruction in my classroom.

Strategies Intervention Model (SIM). Kline et al. (1992) and Deshler and Schumaker (1993) summarize the work on strategy instruction for students with LD that began in 1977 at KU-IRLD. Their strategy instruction model, entitled the Strategies Intervention Model, was developed with four main goals: (a) development of student independence, (b) development of social skills, (c) graduation from highschool, and (d) successful transition to postsecondary education (Deshler & Schumaker, 1988). A variety of strategies, called the *Learning Strategies Curriculum*, was developed and field-tested for use in the public school system in

three major areas -- acquisition, storage, and expression of knowledge. The teaching of the strategies follows an eight step instructional process (Schumaker et al., 1984) that is intended to be taught with sensitivity to the needs of the student: (a) pretest and obtain commitment from each student to learn, (b) describe the details of the strategy, c) model the strategy through a demonstration and *think aloud* process, (d) have students verbally rehearse the steps of the strategy, (d) have students practice the strategy with controlled materials and give individual feedback, (e) have students practice the strategy with regular curricular materials and give individual feedback, (g) posttest and obtain commitment to generalise the strategy, and (h) generalise instruction to practice and maintain the learning strategy in a broad range of situations. Over time, the staff at KU-IRLD have developed a training network that has spread across the United States and into Canada. Training requires teachers to commit for a year or longer and use the detailed manuals provided for each individual strategy in the Learning Strategies Curriculum.

Initially, this group of researchers was interested in whether strategy instruction could improve the academic performance of students. They found students could make gains of greater than one year in reading, math, and writing (Deshler & Schumaker, 1993). However, gains only validated the potential effectiveness of strategy instruction in very controlled settings with small groups of high school students. As the researchers recognized that their methodology did not address implementation of strategy instruction on a broad-scale level, they began a battery of studies with special education teachers described as the *barrier identification studies* designed to investigate variables that could impede the success of strategy instruction (Kline et al., 1992). Impediments, or barriers, were identified through an

open-ended survey given to their own trainers which focussed on the trainers' views of teaching skills, teacher fidelity to the instructional sequence, instructional time, and teachers' use of the manuals. The overall findings were a disappointment to the researchers. Although the teachers had completed the training session, instruction was interrupted, halted, or not even attempted and few students were mastering the strategies. The major factors cited as the cause of the lack of success of strategy instruction were teachers' mind sets, the approach to instruction, the lack of support to the teacher, and timetabling difficulties.

Next, a series of *intervention studies* were conducted to assess methods of reducing perceived barriers to strategy instruction. These studies analyzed the effects of providing the necessary materials and interpersonal support, establishing goals and policies to minimise interruptions to instruction, enhancing teacher to student feedback routines, and providing inservice so strategy instruction would be reinitiated in the following year. The researchers reported that when providing materials and support, teachers were more likely to begin instruction, were quicker to begin instruction following training, and were better able to serve more students. Efforts to avoid interruptions to instruction and development of feedback routines resulted in students mastering more learning strategies in a decreased amount of time.

The most applicable study I found within this body of research because of the focus, student age group, and intervention was a quantitative study by Ellis and Graves (1989) on finding the main ideas. The participants were forty-seven grade 5, 6, and 7 students with LD who demonstrated accurate decoding ability but poor reading comprehension skills. To participate in the study, the students were required to read 100 words per minute with 97% accuracy using Grade 3 material. Four training conditions were established. The control group

was provided with only a definition of main idea. The second group was told to reread repeatedly the passage. The third group was taught and expected to memorise the Paraphrasing Strategy (the same strategy I used in my study) in which students read a paragraph and then ask themselves to restate the main idea. The final group was taught the Paraphrasing Strategy and encouraged to reread the passage. The most significant gains came from using the Paraphrasing Strategy. The researchers found there were no significant gains using the rereading method. Even when the Paraphrasing Strategy was combined with the rereading method, the rereading method did not improve results over just using the Paraphrasing Strategy. What particularly interested me about this study was the success of the same strategy that I planned to use in my study with a similar age group.

The KU-IRLD group's work is frequently cited by other researchers because their work has undeniably shaped and influenced the field of strategy instruction. The primary strengths of the research done by this group is the duration of their work and the systematic manner in which key learning strategies have been identified, developed, and tested to improve the academic achievement of at-risk students. The KU-IRLD group's work is a valuable starting point for teachers to research and compile potential strategies, material, and accompanying assessment forms for adaptation within their own classrooms.

When reading some of the KU-IRLD literature, however, I perceive a sense of incredulity and dismay that the Strategies Intervention Model had not been better received by teachers. The reasoning is that many teachers do not have the skills to follow a strategy instruction model. I believe it is this lack of trust in teachers' abilities that has limited implementation of the Learning Strategies Curriculum. In the KU-IRLD literature, the teacher

appears to be the anonymous obstacle. Although the researchers acknowledge that much of their research is based on results from isolated classrooms or laboratories with a limited range of teachers, little reflection appears to exist suggesting that perhaps the scripted lessons are too rigid and ultimately boring once the novelty has worn off. In addition, the model does not take into account constructivist thought but continues to present isolated strategies in a hierarchical manner (Englert et al., 1991). Nevertheless, I also believe the KU-IRLD work is far too valuable to be dismissed because of their reductionist view. If teachers and researchers are to be partners, as is stated in the article by Kline et al. (1992), collecting, analysing, and valuing teachers' experiences with strategy instruction will be an essential component, I believe, to future development of their work.

Graham, Harris, and Self-Regulated Strategy Development. The second group of researchers, Graham and Harris and related associates, work out of the University of Maryland. Graham and Harris (1993a) and Graham et al. (2000) summarise the work of approximately twenty years that began in the early 1980s. This group developed a model called *Self-Regulated Strategy Development* that teaches students to use strategies to accomplish academic tasks in math, reading, and writing. The Self-Regulated Strategy Development model has been used to teach a variety of writing strategies in more than 20 studies (De La Paz, 1999a). Self-Regulated Strategy Development was initially designed for students with LD but has diversified over the years to include all levels of students from grades 4 to 8 ranging in group size from a single student to regular, inclusive classrooms. The ultimate goal is to encourage cognitive and affective development by teaching and encouraging students to sequence and organize effective learning behaviours. Like the Deshler

and Schumaker group, teachers following the Self-Regulated Strategy Development use a *metascript.* The researchers tape-recorded and tracked teachers' fidelity to the script during their studies. Self-Regulated Strategy Development has seven stages that this group suggests are flexible and recursive: (a) development of background knowledge and preskill development, (b) initial teacher/student conference, (c) discussion of the strategy, (d) modelling of the strategy, (e) memorisation of the strategy, (f) collaborative student practice, and (g) independent practice. These seven stages of instruction rely on five characteristics: (a) direct teaching, (b) collaborative learning and teacher/student interactions, (c) individualised instruction, (d) criterion-based production rather than time-based production to provide for individual pacing, and (e) new strategy development based on previously learned strategies.

In a multiple case study (Graham & Harris, 1989b) involving three Grade 6 students, students received individualised instruction on the *Think! Plan! Write! Strategy* and the *TREE Strategy* (topic sentence, reasons, examine reasons, ending). Students were taught to complete essays following a series of prompts to stimulate self-direction. Results were favourable with planning time increasing from a baseline of twelve seconds to an average of approximately eight minutes. Irrelevant information dropped from 45% to 15%. Seven percent of the baseline essays contained a premise, reasons, and a conclusion compared to posttreatment results of 82%. An interesting aspect to this study was how well the students, when assigned a narrative story rather than an essay, could generalise the original strategies to the new task. Two of the three students improved without any explicit instruction in producing narrative text and one improved after a single "booster" lesson.

A second study (Sexton et al., 1998), which replicated the above 1989 study, added an attributional component (attributing success to effort, strategy use, ability, task difficulty, or luck). Again, the students significantly improved their planning time, number of words, inclusion of essay elements, coherence, quality, and strategy use. By the end of the study, two of the three students felt more positive that their efforts and strategy use played a role in improving their writing. This result suggests that attributions can be influenced by instruction. These two studies indicate there is a correlation between students' overt planning time and the quality of their essays. This provides a strong rationale for the planning focus inherent in the RAP and PAR Strategies I taught the students during this note-taking/report-writing unit.

A case study by Graham and Harris (1999) began with a series of assessments on a student with a severe writing difficulty. A checklist of the writing process guided the observations of the student by the researchers. This student did not appear to plan, organise information, or revise his work. Rather he used a *retrieve and write* approach which meant he did not attempt to generate additional information and terminated his writing too soon. This left him with a sparse, disorganised composition that did not include the required elements of the genres. These observations led to instruction geared to changing this students' approach to writing. This student was already enrolled in a class where a writing process approach was used. Students worked independently and instruction was student-driven. It appeared that the informal teaching methods were not enough to help improve the skills of this particular student. Modelling of planning and revising essays was used to overcome this student's negative approach to writing. The end result was that this student began generating 15 to 20 ideas before writing, wrote compositions that were two to three times longer, and made

twenty changes to every hundred words. His compositions were better organized, more complete, and easier to understand. In addition, the student made fewer self-deprecating comments and appeared to be more positive about writing.

This study was a rarity as most strategy instruction studies do not allow the reader to get a good sense of the nature and the specific learning of the student participants. The researchers stated that the teacher of this student was very pleased with the gains that student had made. A student's gains, subsequent pride, and greater happiness are the rewards of teaching. This case study allowed for me to imagine this student in my classroom. The idea that strategy instruction created this success story was believable, encouraging, and motivating.

In a study by Troia and Graham (2002), twenty Grade 4 and 5 students with LD were either instructed in three planning strategies or received writing instruction comparable to what they were receiving in their regular classrooms. Instruction was highly teacher-directed and was provided to two students at a time. In the end, students who received the planning strategies instruction spent more time planning and wrote longer, qualitatively better stories; however, the researchers believe the results showed only modest gains. Encouraging though, is the fact that these results were maintained a full month later when the students were retested on their story writing. Unfortunately, the group that received the planning strategy instruction were not able to generalise their gains in story writing to uninstructed essay writing. Given the lack of generalisability to essay writing, the researchers stressed that incidental teaching or telling students is not enough to change performance across genres. They stress that instruction must involve active participation on the part of the student and

must involve explicit instruction. In addition, the researchers, recognising the difficulty of replicating such a study in an inclusive classroom situation, recommended using checklists and simple rubrics to encourage collaboration between students for effective feedback. Even though this study was primarily about instruction in narrative writing, the fact that benefits were not generalized to essay writing was enlightening to me. This validated my own understanding that I should never assume that learning has occured just because I believe enough has been said on the topic.

As of 1999, De La Paz reported that no studies using the Self-Regulated Strategy Development model had been conducted in regular, inclusive classrooms with a regular classroom teacher as the primary instructor. Thus De La Paz (1999a) conducted a study with 22 Grade 7 and 8 students, ranging from students with LD to high achieving students, who were preparing for a state writing test requiring a five paragraph expository essay. The *PLAN Strategy* (pay attention to the details, list main ideas, add supporting ideas, number your ideas) and *WRITE* (work from your plan, remember your goals, include transition words, try to use different sentences, exciting, interesting $100 000 words) were intended to assist students in planning and composing expository essays. The Self-Regulated Strategy Development model was modified to accommodate the class situation. Rather than using one-on-one instruction, whole class lessons were provided and then small collaborative groups of two or three students were formed to allow for practice of the lessons and peer feedback about the essays. A special education teachers was in the classroom approximately 50% of the time. At baseline, all levels of students' essays were reported to be of a poor quality based on holistic measures. After instruction, the length of the essays doubled or more than doubled. Students

with LD wrote essays that were 250% longer, included less irrelevant text, and included 175% to 312% more essay elements.

In a second study, De La Paz (1999b) worked with several general and special education teachers over three years to develop an advance planning strategy for middle school students with and without LD. The instructional period ranged from twelve to sixteen lessons (about one month of four sessions per week) which followed the adapted Self-Regulated Strategy Development model used in the above study. Although the length and quality of writing improved in all levels of students, De La Paz concluded that transferring responsibility to the students in a one month time frame was difficult.

De La Paz's contribution to my own work is the fact that her research occurred in a similar aged inclusive classroom. What was particularly validating was the recognition that teachers need to adapt strategy instruction models for use in inclusive classrooms. These adaptations were valued rather than being seen as a weakness of the teacher in not being able to follow an instructional model.

Like the KU-IRLD group, the Graham and Harris group has had a "major impact on contemporary intervention research and practice in learning difficulties" (Wong, 2000, p. 30). The strengths of the Self-Regulated Strategy Development studies are the volume of the published work, the range of participants (from case studies of students with LD, to multiple case studies, to inclusive classrooms) the inclusion of both quantitative and qualitative results, and the attention to methodology. Like the KU-IRLD group, recommendations for learning are criterion-based rather than time-based, which favours the understanding that students progress at their own rates. Unlike the Deshler and Schumaker model, the developers of the

Self-Regulated Strategy Development model encourage adaptation of their model to meet the needs of the teacher and students. What is still missing from their research, however, is the voice, opinions and reflections of the classroom teacher.

Englert, Raphael, and Cognitive Strategy Instruction in Writing (CSIW). In 1990, Englert and Raphael were codirecting the Cognitive Strategy Instruction in Writing project at the Institute for Research on Teaching at Michigan State University (Raphael & Englert, 1990). Originally, these researchers and their associated colleagues, recognised that there was little published research that examined the reading and writing performances of students with LD when exposed to expository text. They felt that it was important to examine the differences between students without and with LD to better inform the design and implementation of instructional programs (Englert et al., 1989). The program initially began as the Expository Writing Program. The purpose of the program was to improve elementary students' experiences with informational text using *think sheets* to guide students through the writing process. (The acronym *POWER* is a mnemonic device outlining the steps: plan, organise, write, edit, revise). Raphael and Englert reported that although the students' writing improved, they believed the program could be enhanced with classroom structures such as strategy instruction, teacher modelling, explicit teaching of knowledge about expository writing, and peer collaboration. Thus, the Cognitive Strategy Instruction in Writing project, with a sociocultural framework, came into existence. The premise of the program is that reading and writing are invisible processes that can be made more visible through guided and then eventual independent writing. Three important elements of the Cognitive Strategy Instruction in Writing project are: (a) teacher modelling and "thinking aloud," (b) teacher

scaffolding through dialogue with students, and (c) a social context to allow dialogues between peers. The Cognitive Strategy Instruction in Writing project uses four phases of instruction: (a) text analysis using student samples, (b) teacher modelling the writing process followed by the class collaboratively writing a paper, (c) guided student practice while creating their own compositions, and (d) independent writing with the goal of publishing in the class magazine.

Englert (1992) reports on the three year study to develop and implement Cognitive Strategy Instruction in Writing. The study began by observing for one year eight regular classroom teachers and eight special education teachers who were teaching writing to Grade 4 and 5 students. The observed trends were that no teachers successfully modelled behaviours or thinking. Furthermore, these teachers used rapid questioning formats rather than questions encouraging dialogue and only one special education teacher and three regular classroom teachers had students collaborate while writing. Special education teachers were found to focus on skills and not on the social nature of writing, and they seldom provided authentic opportunities to write.

The second phase of the study had teachers implement Cognitive Strategy Instruction in Writing (Englert et al., 1991). A total of 183 Grade four and five students from twelve schools were involved. One hundred twenty-eight students, ranging from low to high achievers from regular classrooms. Fifty-five students were students with LD. Assessments were done in September and May and instruction occured from October to April. The findings were that students in the Cognitive Strategy Instruction in Writing treatment group had significantly greater knowledge about writing strategies and the writing process. In addition,

these students outperformed the students in the control classes by improving their ability to master text structure, to understand the purpose of writing, and to develop an awareness of the audience.

The final stage of the study was to take a subset of earlier participants for a more in-depth analysis. In this case, 63 students were involved. Thirty-two students had participated in the previous year, and 31 students had never received the Cognitive Strategy Instruction in Writing treatment. Approximately half of each group were students with LD. Again instruction began in the fall and carried on through the school year for two to three days per week. Overall, the researchers felt that significant results were achieved because of the opportunities to acquire and use language about writing through social interactions. Gains in students with LD from the non-intervention group were very limited, and the students appeared to remain very teacher dependent. The talk of these students remained on evaluation and end products rather than on process and strategies. The students with LD in the intervention group, however, improved so dramatically that there was no significant difference between them and their non-LD peers who had not received the intervention. The intervention was viewed as narrowing the gap between regular students and students with LD. Two interesting conclusions were that performance differences between regular students and students with LD are greater in writing than reading and that increases in metacognitive knowledge may not be immediately reflected in writing. Thus progress and development is best documented through longitudinal studies.

The Englert and Raphael group has made great inroads in compiling characteristics of expository text. They have found that students understand exposition in a developmental

manner and have argued that increasing students' knowledge and use of exposition is a metacognitive and social process. Their research has been viewed as artfully bridging quantitative and qualitative research to contribute extensively to current understandings about effective instructional models (Isaacson, 1992), although, Englert et al. (1991) have suggested that further empirical research would be useful to determine the precise benefits of the various learning and teaching strategies of the Cognitive Strategy Instruction in Writing model. In addition, this group's work occured within regular classrooms within the natural time frame of a school year. Their work has been longitudinal and has included longitudinal support for participating teachers. A point of interest about their work was their methods for obtaining understandings about students' knowledge of writing using hypothetical and actual student samples to prompt students' reflections. Unfortunately, even though transcripts of teachers' and students' words and student samples brought to life some of the participants' interactions, the actual opinions and reflections of the participating teachers were not documented and interpretations remained in the hands of the researchers.

Wong and expository writing. Wong and associates (Wong, Butler, Ficzere, Kuperis, Corden, & Zelmer 1994; Wong et al., 1996) working out of Simon Fraser University in British Columbia, report on a three year longitudinal study based on the work of two of the groups I previously discussed -- the Englert and Raphael group and the Graham and Harris group. The students were highschool students with LD or with English as a second language enrolled in modified English classes. Four of the 21 students participated all three years of the study, and three other students participated for two years. In the first year, the focus was to write reportive essays. In the second year, the focus was on persuasive essays, and the third

year addressed compare and contrast essays. Students were given three 52 minute lessons per week to complete essays and were expected to complete approximately six essays (which was decided after the first year that initially required an overwhelming 12 essays) to reach mastery of the genre. Through teacher-directed lessons, the students were introduced to the writing process as a three step process of plan, write, and revise, and they were taught how to use prompt and planning sheets. After explicitly modelling how to plan the genre, the students engaged in the following stages of composition: (a) collaborative planning between students using plan sheets, (b) independent writing following the plan using a computer, (c) conferencing with teacher and peer, (d) independent revising, and (e) creating a final good copy on the computer. The overall results were that gains were made in clarity, aptness of ideas, and organization. Gains were maintained, although the time frame between the posttest and the maintenance test is unclear. An interesting finding was that metacognitive development was believed to take, in general, two to three years to develop in the participants, and was reported as not occurring in three students. Furthermore, different aspects of metacognition developed depending upon the student. Some students became more aware of planning, some became more aware of the need for clarity, and still others became aware of the importance of making thier writing interesting for the reader. Although instruction was perceived to be uniform for all students, unique patterns of development from student to student suggest the power a student's background, interest, and incidental interactions can have upon his/her learning. A somewhat surprising finding for the researchers was that self-efficacy did not necessarily improve with metacognitive development. The researchers realized that development was like a "reality check" enlightening the student about

what they presently were not including in their writing and how much additional work they would still have to do to become effective writers.

A contribution of this group to the body of literature on strategy instruction is that this group is Canadian. In addition, this group's study was in the same province as my own study and operating under recognisable classroom conditions established by the Ministry of Education of British Columbia. The conditions of this study included the teacher as partner and had the teacher plan instruction with the researcher and the research assistant. Some transcripts and samples were included and discussed to inform the reader of the students' perspective. Again, however, the reflections of the participating teacher were not included to enlighten the reader about the teacher's role in and perceptions about successful strategy instruction implementation.

Mothus and Lapadat and the RAP/PAR Strategies. Most relevant to this study is the research of Mothus and Lapadat employing the Paraphrasing Strategy from Schumaker et al. (1984) with Grade 8 students with LD (Mothus, 1997, 2001; Mothus & Lapadat, 2003; Mothus et al., 2002. Using the RAP (Read, Ask, Put) acronym, students read a paragraph, ask themselves what the main idea and supporting details are and then put the main and supporting details in their own words. Mothus explicitly taught students to use this strategy with a variety of texts and videos. During instruction, material was initially introduced orally and then gradually students were expected to read from the overhead projector. Expository text was broken down into paragraphs and videos were paused approximately every five minutes to allow for an outline of main ideas and supporting details to be recorded in complete sentences. The reading level of material was intensified gradually over the 80 hour

intervention phase until students were processing materials at their grade level. Mothus found students significantly increased their reading ability and comprehension.

The second focus of Mothus's research was the essay writing that naturally evolved from the RAP strategy. Mothus adapted the RAP Strategy by reversing the acronym to then provide a related three-step process for writing. The PAR Strategy (Put, Ask, Record) required students to put details into categories, ask what the main ideas were in each category, and record the main idea and supporting details of each category in paragraphs using their own words. Students were then expected to add an introductory and concluding paragraph to complete the expository essay text structure. There were three instructional phases to the PAR Strategy: (a) Students were introduced to a topic through readings, lectures, and videos for which they enacted the RAP Strategy, (b) In co-operative groups, students brainstormed and listed all their knowledge, new and old, and (c) Students enacted the PAR Strategy by organising their notes and rewriting them as an acceptable essay. All but two of the Grade 8 students that participated in the study were able to construct an essay by the end of Grade 8 (Mothus, 2001). One out of eleven remembered how to do this in Grade 9 and eight students only needed one review lesson.

The value of this study is that the RAP Strategy was adapted for use in a regular sized classroom whereas its original intention was to be used with small groups of students in special education classes. The invention of the related PAR Strategy effectively captured the interrelationship between reading and writing. Processing and producing the same information required the students to engage actively and meaningfully with the text to construct unique versions of that same information. The two strengths of the RAP and PAR Strategies are their

specificity and simplicity. For the student, the acronyms are short and their meanings terse. The prompts are easy to remember and remind students to work systematically while note-taking a passage. By rearranging their notes, the student have a ready outline from which to draft a report. Overall, this one strategy and its variation significantly improved students' reading and writing of expository text.

The work of the Mothus and Lapadat group was the impetus for my own study so there are similarities in our work: (a) Their research was done in the same city and school district following the same Ministry guidelines as my study, (b) Mothus was also a teacher-researcher, and (c) The RAP and PAR Strategies were enacted in a whole class setting. Two differences between our studies are that my students were one to two years younger and enrolled in an elementary school rather than a junior highschool, and Mothus had a very large reading component in her study whereas I only focussed on gains in students' writing. There are also two significant differences in the methodology which, I believe, complement the existing data collected by Mothus and Lapadat. First, my class was a regular inclusive class whereas Mothus's was a special education class in which the students only remained with her for a portion of the day. Second, initially Mothus's work was quantitative and she did not document her decision making and reflective processes; however, in this groups' larger body of research, the direction is to document the role of the teacher in successful strategy instruction implementation (Mothus et al., 2002).

I believe that the largest gap in the research on strategy instruction is the exclusion of the voice of the teacher of a regular inclusive classroom. Existing studies have included and relied upon regular classroom teachers' participation but very seldom have included any of

these teachers' thoughts or reflections. Rather, the teachers' voices are reconstructed by the researchers and do not capture the front-line experiences of teachers juggling the complexities of teaching writing using a strategy instruction model in an inclusive classroom.

Statement of the Problem and Research Questions

By linking research from the fields of strategy instruction, metacognition, learning disabilities, and writing instruction, I have examined some potential views of and directions that effective strategy instruction can take from both reductionist and constructivist perspectives. From these broader understandings of effective instruction within regular inclusive classrooms, my purpose in conducting this study was to examine -- from my perspective as the participating teacher -- a strategy instruction approach in writing. Specifically, I wanted to document and reflect upon how my Grade 6/7 students enacted the RAP and PAR Strategies to create informative reports. The study focussed primarily on three aspects: (a) instructional strategies, (b) the quality of the students' writing, and (c) the cognitive and metacognitive functioning of the students. The guiding research questions were:

1) What declarative, procedural, and conditional knowledge do students state or apply when engaged in a note-taking/report-writing unit?

2) What structures and procedures can I implement during strategy instruction in my inclusive classroom to maximize the quality of students': (a) note-taking, (b) report-writing, and (c) cognitive and metacognitive functioning?

3) In implementing a strategy instruction model, what reflective and decision-making processes do I experience as the classroom teacher?

CHAPTER THREE

Method

Introduction

In this study, I implemented and evaluated, from my perspective as teacher-researcher, a note-taking/report-writing unit integrating principles of strategy instruction and principles of writing process within an inclusive Grade 6/7 class. My goals were to develop, examine, and reflect upon my instructional practices and to develop, assess, and interpret the cognitive and metacognitive functioning of my students. The note-taking/report-writing unit consisted of three instructional phases over a period of thirteen weeks. The first phase of the report-writing unit was a general introduction to report-writing. The second phase introduced the RAP Strategy (**R**ead a paragraph, **A**sk what the main ideas and supporting details are, **P**ut the main idea and supporting details in your own words) as a form of note-taking. The third phase introduced report-writing as a process of choosing a topic, finding sources, note-taking, organising notes, drafting, editing, proof-reading, and publishing.

Site

The classroom chosen for this study was my own Grade six/seven class. The school is a rural elementary school from a central British Columbia school district with busing as the primary access. The school is situated just outside the city limits of a city with a population of approximately 80 000. The population of the school, at the time of the study, was approximately 400 students from Grades kindergarten to Grade seven.

Participants

During the course of the study, the class population ranged from 28 to 29 students, but

only 25 participants were included in the results of this study. I did not receive consent to use data from two students, who, nevertheless, participated in the activities and assessments of the instruction as part of their regular curriculum. A third student, for whom I did receive consent, was absent for medical reasons and then in too much discomfort to fully participate. Of the twenty-five students, nine students (four females and five males) were in Grade six, and sixteen (10 females and 6 males) were in Grade seven.

A Model of Inclusion

The British Columbia public school system favours the inclusion of special needs students within regular classrooms. According to BC Ministry of Education funding guidelines, classroom assistants may be assigned to special needs students based on hours per week. Within my classroom, support services included one full-time male classroom assistant assigned to a special needs student in a wheelchair, and a part-time female classroom assistant assigned to one low achieving male and one female student with a disability in math. Special education services in the school, at the time, were delivered via a pullout learning assistance model. Two students attended learning assistance in a resource room for thirty minute blocks four times a week for instruction in reading. Another two students had been recommended to attend but had opted out. I perceived nine participants in this study to have special academic needs. Based on information from the student files, one student was described as having a learning disability in language and one student was described as having a learning disability in math. Six students were described as low achievers, and one student was described as an underachiever. As a group, the behaviours of these students in terms of organisation, time on task, and acceptable classroom behaviours varied greatly. What was consistent, however, was

that each of these students required much more direction, assistance, encouragement, teacher monitoring, and my individual time than the average student. According to the school records of this group of students, one student received no letter grades as his programming was fully modified. Two students were partially modified -- one received no letter grade in math, and one received no letter grade in language. The remaining seven students consistently received Cs or C-s (a range of 50% to 66%) in language arts.

Students with LD

In addition to the definition of learning disabilities by the Learning Disabilities Association of Canada (2002) and the list of characterisitics of students with LD by Johnson and Lapadat (2000), Kavale and Reece (1991), in a survey of 547 teachers in Iowa, found more than 80% of the teachers agreed upon conditions of learning disabilities. Teachers associated LD with the following statements: (a) There is discrepancy between ability and achievement; (b) There are learning strengths as well as learning weaknesses present in each student with LD; (c) There is a processing deficit that appears to interfere with learning; (d) Students with LD are believed to be of average to above average intelligence; (e) There is a need for special materials and instructional techniques; and (f) Students with LD learn differently than individuals with other mental deficits.

Bender and Smith (1990) in their meta-analysis reviewing 25 studies that compared classroom behaviour of students with LD to students without LD recognised that teacher ratings should be used as part of the process of identifying students with LD. I believe years of consistent teacher comments can indicate possible learning disabilities. Based on my experiences, most students in the British Columbia school system who are struggling

academically do not receive psychoeducational assessments to diagnose learning disabilities or attention deficit tendencies. Thus, because only three of the students in my class had had psychoeducational assessments, the compilation of report card comments of the students I had identified as experiencing learning difficulties in my classroom were of particular interest to me. Scruggs and Mastropieri (2002) validate the use of descriptive reports as one means of identifying students with learning difficulties based on the relatively consistency of observations reported over the years dating as far back as the 19th century. In addition, Wong (1996) affirms that the "characteristics observed by parents, educators, psychologists, and medical professionals about children with learning disabilities in 1963 are the very same characteristics that we see today in children, adolescents, and adults with learning disabilities" (p. 22).

The comments from the report cards in the student files as summarised for this group were: *is disorganized, shows minimal improvement, is content to do the minimal amount necessary, does not have a good attitude, if only the student could make the effort, wastes a significant amount of time daydreaming and avoiding work, needs to focus on tasks, needs to ignore distractions, is inconsistent, fools around, must learn to concentrate, wastes time, needs constant reminders, needs to pay closer attention, works well when he applies himself, needs to become more independent,* and *has low self confidence*. These report card comments represent the observations and assessments of approximately seven previous teachers and are a major source of information suggesting possible learning disabilities for participants in this study based on the previous definition, characterisitics, and conditions mentioned earlier in this paper. For the purposes of this study, I have chosen to interpret the comments as evidence

that nine of my students had and have difficulties with instructional practices and expectations found in mainstream classrooms. As up to one third of the students in this Grade 6/7 class exhibited quantitative and qualitative indicators of academic difficulty typical of a learning disability profile, I believe this particular grouping of students represented a valuable opportunity to implement and explore the effectiveness of strategy instruction within an inclusive classroom setting. Within this study, I have labelled this group of nine students as *students with LD*. The difficulty of making this type of a differential diagnosis has been discussed by some researchers in the field of learning disabilities who believe that students with LD cannot be reliably distinguished from students who are low achieving (Scruggs & Mastropieri, 2002). Others believe they can be distinguished. Although I could get a strong sense of the difficulties each learner was having, I could not reliably distinguish between students with LD from those who were low achieving.

The Teacher and Researcher

I, as the teacher/researcher conducting this study, am a female, first generation Canadian of European decent. I began my education in the British Columbia public school system but completed the last three years to graduation in the private school system. I immediately entered university, and after a brief unsuccessful attempt in a precommerce programme, switched to elementary education having secretly nursed the desire to teach since I was a child. I found my niche during my practica in the upper elementary grades 5 to 7. I began substitute teaching in my present school district in 1987, obtained a teaching contract in 1988, and have continued to teach in this district full time or part time in a range of positions from K to 7. In 1998, I began a Master of Education programme at the University of Northern

British Columbia. My undergraduate interest was primarily elementary math. In this graduate programme, given the course work, the interest and expertise of my professors, and my concern with the academic difficulties experienced by many of my students, I have focussed my attention on language development, learning disabilities, and sociocognitive models.

I am opinionated, seek order, and place high demands on myself and others. Thus, I prefer organising my classroom so that expectations are clearly laid out and routines are established and adhered to. On the other hand, I envision reform because I have not been satisfied with the status quo of the school system, of traditional teaching practices that do not appear to yield results, or of seeing teaching as merely a job. I enjoy teaching and am most rewarded when I see my students fully engaged in and motivated by their learning. I have, over the years, attempted to develop teaching practices and units that encourage process development and self regulation. My students characterise my efforts as making learning fun, trying to help everyone understand, and being fair on discipline issues. At times, I have come full circle, beginning with one practice, attempting another practice and then coming back to the original practice as its value becomes more clear to me. What I am striving for is the moment when I can stop feeling like the novice teacher and classify myself as a master teacher.

As I had worked with my students from the beginning of September, 2001 to the end of January, 2002 before commencing the study, there had already been much opportunity for me to develop routines within the classroom, allow the students to become familiar with my style of teaching, and develop a positive rapport. I believe this paved the way for a smooth transition into the study. I knew my students; they came to trust me; and we worked well

together to maximise the potential benefits of this note-taking/report-writing unit. In addition, many students felt comfortable criticising my decisions during the study. I believe their voices, both positive and negative, have helped bring a tangibility and reality to this study that is missing in some of the literature on strategy instruction.

Ethical Considerations

To my knowledge, this study presented no risk to any participant. Rather, the note-taking/report-writing unit benefited students, in varying degrees, by improving their abilities to identify main idea and supporting details of expository text, to write a report independently, and to state a more thorough understanding of the writing process as it relates to report-writing.

Prior to the commencement of this study, approval was obtained from participating institutions which included the school district, the participating school, and the UNBC Research Ethics Board. A written disclosure of the purpose and procedures of the study was provided to the parents/guardians (Appendix A), and written consent for the students' data to be used and analyzed was obtained. The study and its integration into the regular curriculum and report card marks were explained to the students. Parents/guardians were given the option to terminate their child's participation in the study at any time without penalty to the child. The understanding, however, was that all students in the class were required to participate in the instruction as part of their regular education program whether written parental consent to participate in the study had been received or not.

In this report and in other presentations or publications of the data, care has been taken to allow each participating student to remain anonymous, and individual student reports have

been kept confidential. Only the data for which written consent was given has been included in this study. I, as both teacher and researcher, made myself available to answer any inquiries during the course of the study and am prepared and willing to share the results.

Instructional Procedures

Duration

Before the actual onset of the report-writing unit, there was an anticipatory period (September, 2001 to January, 2002) during which I made observations of a mentor teacher teaching the RAP Strategy to her class, I researched topics found within this paper, and collected and prepared instructional materials required for the note-taking/report-writing unit. During this anticipatory time, my preparations generated new experiences upon which I reflected and, in turn, introduced into my usual instructional practices and discourse. Specifically, during the anticipatory period, I created posters, began introducing new ways of discussing ideas with students, and regularly reminded students about their future involvement in my study.

The study began with a preassessment January 30, 2002 and ended with a student questionnaire June 24, 2002. The intervention, or the note-taking/report-writing unit, occurred over 13 weeks from February 4, 2002 to May 30, 2002. Because this study took place in the naturalistic setting of my regular classroom, the study was subject to the usual timetable disruptions such as cultural events, guest speakers, school holidays (Spring Break and Easter), Ministry of Education testing, and my occasional, short term absences for various reasons from the classroom.

Anticipatory period

One teaching practice commonly found within strategy instruction is to develop and use mnemonic devices. The purpose of a mnemonic device is to make a process, skill, or task more accessible to students by publishing steps in written form that they can refer to or memorise. I began creating four posters introducing the mnemonic devices that I anticipated using in my study. The first two posters were adaptations of the RAP and PAR Strategies described earlier (Appendix B) that would be the basis of the note-taking/report-writing intervention. The third poster listed overt and covert students behaviours that I expected during direct instruction. This poster entitled Teacher-Directed Lessons (see Appendix B) uses the mnemonic LISTEN (**L**apse into silence; **I**dentify and eliminate distractions; **S**it facing the teacher' **T**rack the teacher; **E**ngage your brain - think! **N**ote-take when necessary.). The fourth was a poster of the phases of the writing process. The writing process has been published before in many different ways, and my depiction reflects those that have for years circulated freely in schools. The one criteria that I required of my mnemonic device was that editing and proof-reading remain separate as I believe these two processes although similar in nature need to be separated for the developing writer who may tend to focus primarily on the mechanics of writing when improving writing rather than the substance. The writing process poster (see Appendix C) is entitled the *5 Phases of the Writing Process* (**p**rewriting plan, **p**en a draft, **p**erfect by editing, **p**roof-read, **p**ublish) which also corresponds with counting the steps on one hand. A second writing process poster (Appendix C) is intended to introduce the writing process as a cyclical process rather than a linear one. The five phases of the writing process are arranged in a circle with two directional arrows suggesting a flexible

multi-directional movement through the writing process. I posted the five above mentioned posters in prominent positions in the classroom and referred to them throughout the instructional unit and at other appropriate instructional times in other subject areas.

During the anticipation phase, I became much more conscious of my teacher-directed class discussions and my choice of words for engaging students and eliciting student responses. I began including new ways of talking about learning and thinking. From the information processing literature, I referred to cognitive activities such as *thinking, memorising, recalling, finding that spot in your brain where you store information*, and *organising*. From the social constructivist literature, I used remarks like *it is important to discuss your ideas with someone else, learning often happens best with other people, my way of thinking is only one way of thinking*. From the learning disabilities literature, I used remarks like *some people have difficulty getting information into their brain and out of their brain, effective learners do this*, and *strategies will help you become a more effective learner*.

The final part of the anticipatory period was letting the students know, from the beginning of the school year that they would be engaged in a study. I was attempting to establish a tone and structures in the class and a relationship with the students that would allow the study to begin in a familiar rather than a contrived manner. I felt that preparing the students for their involvement in a study would allow them to enter into the study in a relaxed and natural manner that would best capture their usual classroom performance. In addition, I referred to the writing of my proposal and thesis many times. By the time it came to getting consent, the students were familiar with being involved in a study, and I was pleased with the support and interest I received from my students and their parents.

Timetable

The report-writing unit was scheduled into the regular ninety minute language arts block of the timetable. Ideally, this block of time occured over three consecutive mornings, Tuesday to Thursday. For thirteen weeks, instruction in report-writing occured for a minimum of 30 minutes to a maximum of 90 minutes per day (Tuesday to Thursday) depending upon the schedule. Seven weeks of the thirteen weeks had three consecutive days of 90 minutes blocks, and six weeks of the thirteen weeks had two days per week. At least one lesson a week spanned the entire 90 minutes. In total, students had 43 hours of class time over 34 days directly related to the instructional unit. In addition, on an individual basis, students spent additional time completing homework, researching in the library or computer lab based on their report topics, or using spare class time to work on their reports.

To meet curricular demands, lessons not considered part of the note-taking/ report-writing unit were also timetabled into the language arts block. In addition to the instructional unit, students read genres other than non-fiction and participated in writing activities such as personal journals, learning logs, short stories and poetry; however, similarities and differences of reading and writing fiction versus non-fiction were discussed in an attempt to make connections and create opportunities to enhance exposure to the declarative, procedural, and conditional knowledge of report-writing.

Instructional Phases

The report-writing unit was divided into three instructional phases. Phase One was the introductory segment to report-writing. Phase Two involved teaching the students the note-taking strategy RAP. In Phase Three students independently enacted the RAP and PAR

Strategies to write reports on topics of their choice. Each instructional phase required specific declarative, procedural, and conditional knowledge, classroom organization, teaching strategies, student behaviours, and assessment procedures. Phases One and Two included instructional methods linked to strategy instruction such as teacher-directed, explicit instruction. Phase Three's instructional methods were more in keeping with a sociocultural, writing process approach. As students were required to direct and monitor their own progress, individualised instruction became a necessary part of my instruction. All students began Phase One together in whole-class lessons but eventually began progressing through the phases at their pace.

Phase one: Introduction to Report-writing

Knowledge. Phase One, which was an introduction to expository writing through keyword searches, vocabulary development of report-writing and memorisation of steps of writing process, occured over the first six lessons (February 4 to February 18). Ten to fifteen minutes of each lesson were teacher-directed class discussions that were intended to establish the declarative information about report-writing. A working vocabulary (*non-fiction, main ideas, supporting details, keywords, plagiarism*) was developed to help the students speak about report-writing. An understanding of plagiarism was heavily stressed as my past experience with students writing reports was the students' strong tendency to copy because "the words sounded so good, I couldn't change them." (It is important to note that our working definition of plagiarism at this time was limited to copying words. We did not discuss taking credit for ideas as I thought it might inhibit and confuse our work on main idea and supporting details. A broader definition of plagiarism could be taught later on a "need to

know" basis.) What stemmed from the discussions on plagiarism was an understanding that despite the fact that author's words should not be copied, some vocabulary is essential to intelligent discussion of a topic and, if used, would not be considered copying. Thus, key words were broken into two categories: *necessary* vocabulary (technical or essential vocabulary for discussing a topic) and *author's choice* vocabulary (words chosen dependent upon an author's style).

Procedural knowledge of report-writing was developed by introducing students to the writing process so that students would become familiar with the idea that over time they would be introduced to a series of steps that would eventually lead to a completed draft of a report. At this time students did memory work with the writing process poster. The method I encouraged for memorising material was: Read, Cover, Say, Check! Then students would test each other orally in partners. Finally, all students would turn their backs to the poster, and I would randomly call on students to recite the steps of the writing process. By this point, most students were able to recite the steps but had various degrees of understanding of the application of these steps.

The conditional knowledge developed with the students in Phase One was: (a) Some people enjoy reading and writing about facts; (b) Knowledge of the report-writing genre is required in high school, university, and certain careers; (c) Plagiarism is a punishable offence; and (d) Writing a good report is hard work but is more manageable if it is broken into the steps of topic and source generation, note-taking and organisation of notes, drafting the report, and improving the report for publication.

Assignments. During the remainder of each lesson, students completed written

assignments. The written lessons of Phase One required students to categorise words from non-fiction paragraphs as either *necessary* or *author's choice* vocabulary and then substitute a selection of their own words instead of the *author's choice*. I began each lesson by reading a paragraph (of which each student had a copy) aloud. Next, I modelled how I would locate and highlight keywords. I recorded the vocabulary as *necessary* or *author's choice* in two columns on the blackboard.

Initially, students practised assignments with partners in the first two lessons that were not scored but rather shared and discussed as a class. When students became familiar with the format, they worked on assignments with a partner, and both students received the same score for the single assignment. Finally, the students graduated to working independently and receiving an individual score for each assignment. The students were expected to follow the LISTEN lesson format, as described earlier, to stay focussed for the teacher-directed lessons and then work on-task to complete each assignment. Work was collected at the end of the lesson and marked by the following day for feedback. The next lesson would then begin with a debriefing of the previous assignment.

Materials and assessment. The paragraph materials used in Phase One's keyword search, from the Grade 3 Steck-Vaughn *Comprehension Skills Series* (Sharpe, 1992), were between five to eight lines in length, and each paragraph contained a single main idea. The student handouts comprised of five paragraphs. Each paragraph had a new topic and main idea unrelated to the previous paragraph. Reading material below grade level was used to minimise difficulties with reading to aid in main idea and supporting detail development.

The keyword vocabulary lists for each paragraph were scored out of ten. Marks were

taken off if *necessary vocabulary* had not been included. These assignments continued until a majority of the students were attaining 80% correct.

Phase Two: The RAP Strategy

Students entered this phase together as a class (February 19). The format of the lessons was very similar to the format of Phase One. Each lesson began with a whole-class teacher-directed discussion, continued on with whole-class practice of the assignment on the blackboard, and ended with students completing assignments during class time.

Knowledge. During the teacher-directed class discussions, concepts from Phase One were reviewed, the mnemonics (LISTEN and The 5 Phases of the Writing Process) continued to be memorised and recited, and new information regarding the RAP Strategy was introduced. The declarative knowledge development of Phase Two covered the following topics: (a) The RAP Strategy is one form of note-taking; b) Note-taking for a report occurs in the prewriting phase of the writing process; (c) Effective authors organise their writing into paragraphs which contain one main idea and a number of supporting details; and (d) Complete sentences begin with a capital letter and end with an end punctuation mark. The procedural knowledge of Phase Two described how to read and then record, in one's own words, an author's paragraph into one main idea and three supporting details. The conditional knowledge introduced to the students was that the RAP strategy would help students read and write expository text more easily and that note-taking is a lifelong skill required for education, career, and personal interest.

Instruction. In the first lesson of Phase Two, students were introduced to the three steps of the RAP Strategy using the poster. First, we discussed the steps, then students began

memorising the steps, and finally, all students participated in guided practice (Mothus, 1997). Each student had a copy of the text. One paragraph was read orally by me. Next, I modelled out loud how I would use the RAP poster to guide myself through the steps of RAP by thinking aloud. I talked my way through finding the main idea which I then recorded on the blackboard in my own words and in the format I expected the students to use. Next, I talked my way through finding each supporting detail. Again I recorded each supporting detail in the format I expected the students to use. Meanwhile students copied the work from the blackboard to familiarise themselves with the format. Adherence to format was highly stressed by indicating main idea sentences on separate lines preceded with the abbreviation MI. Supporting details followed, each on separate lines, preceded with SD and the number of the supporting detail (Appendix L). Main ideas and supporting details were expected to be written in complete sentences. On the second paragraph, the class worked together orally developing the main ideas and supporting details which were recorded on the blackboard by me and copied by the students. To end the first lesson, students worked in pairs, taking turns recording their main ideas and supporting details while I circulated assisting students when necessary. The work was collected at the end of the lesson to be marked for feedback by the next day. Subsequent lessons in RAP followed much the same format as the first lesson. The amount of modelling I did varied as I preferred generating RAPs with input from the students. At times, however, I felt it was again necessary to model a paragraph to reveal my inner-dialogue as I enacted the RAP Strategy.

Because students found establishing the main idea difficult, declarative knowledge was introduced and frequently reviewed to help make finding the main idea more concrete. Three

tactics were given to establishing the main idea: (a) Look at the first sentence as it is often the main idea; (b) Use repeated words to form the main idea sentence; and (c) Ask yourself, "In one sentence, what is this paragraph about?"

Assignments. Once students appeared to be familiar with the RAP strategy, they were expected to complete RAP independently. The assignments were expected to be completed during class time to encourage on-task behaviour. Students were given the criteria that to enter Phase Three they had to achieve 80% on their RAPs three times in a row. The 80% originates from the criteria of the original Paraphrasing Strategy (Schumaker et al., 1984) for achieving mastery, and the three times was an arbitrary number set by me to help establish consistent performance by students. Over time, students' differential rates of progress became apparent so students proceeded to Phase Three at different times throughout the course of the unit. When students reached the criteria of 80% three times in a row on their RAPs, they graduated to Phase Three.

RAP Strategy materials and assessment. The paragraph materials, again from the Steck-Vaughn *Comprehension Skills Series* (Sharpe, 1992) were, at first, five single unrelated paragraphs per assignment (as were used in the key word searches in Phase One). The students used these paragraphs to practice finding the five main ideas of five unrelated paragraphs. Next, students were introduced to five paragraph articles (see Appendix D) which were intended to resemble and introduce students to a report.

Assessment of the students' RAPs was accomplished using the RAP Mark Sheet (Appendix E) adapted fromThe Paraphrasing Strategy (Schumaker's et al., 1984). The assessment sheet was divided into sections of one main idea and three supporting details per

paragraph so each sentence could be separately marked and analysed. Each main idea was given a mark of 1 for correct or 0 for incorrect. Half marks were taken away if end punctuation was not used, or the sentence was incomplete. Each supporting detail was given a mark of 1 for correct or 0 for incorrect with half marks taken away for incorrect sentence structure. The form showed a subtotal for main idea out of 5, a subtotal for supporting details out of 15, a total score out of 20, and a final percent correct. (This scoring form weights the supporting details more heavily than the main ideas. This is appropriate for students first learning the RAP strategy as students appear to have more difficulty paraphrasing main ideas than they do supporting details.) In addition, the mark sheet indicated 8 descriptors of errors: *incomplete, inaccurate, new information, repetitive, unmeaningful, not useful, too general,* and *plagiarised.* Thus the students received both empirical and descriptive feedback.

Phase Three: Report-writing

Phase Three was the least teacher-directed segment of the report-writing unit, although each lesson still began with whole class discussions to review declarative, procedural, and conditional knowledge. Once students entered this phase, the structure was much more determined by each individual student and instruction was essentially individualised.

When students first entered Phase Three, they memorised the PAR poster (**P**ut details into categories, **A**sk what the main ideas are, **R**ecord the main idea and supporting details in paragraphs using your own words) and received a small group or individualised lesson from me on its meaning. Students then were expected to independently select a topic, choose one source, use the RAP Strategy to take notes on the source, and follow the PAR Strategy to complete a first draft of a report. Declarative, procedural, and conditional knowledge was

provided by me or other knowledgeable students on a "need to know" basis. In other words, when students perceived they could not proceed without more information, they were expected to ask questions and get help. In addition, as I circulated, I checked for understanding and gave mini-lessons on the spot as required.

Knowledge. The new declarative knowledge for Phase Three related to the following topics: (a) the meaning of the steps of PAR, (b) types of sources for research, (c) the text structure of a report, an introductory paragraph, body paragraphs, and a conclusion paragraph, and (d) the steps of writing a report within the framework of the writing process. There was new procedural information about how to RAP text that was not a controlled set of five paragraphs. Up to this point, students were accustomed to doing a RAP on every paragraph of a structured five paragraph article. This required stating five main ideas and three supporting details per main idea. Since students were now expected to choose two sources, their RAPs were guided by the information they wished to include in their report. This meant as they read text, students could exclude unnecessary paragraphs and combine paragraphs with similar or related main ideas. Generally, students' sources were also of a higher reading level which often exposed them to lengthier, more detailed paragraphs. Students were encouraged to list as many supporting details, beyond the required three, per main idea as they wished

Instruction. Once students could show me their Phase Three RAPs, I introduced them individually or in small groups to the PAR strategy which is the reorganisation of their notes to serve as an outline for their first draft of the report. At this point, students were asked to consider whether some main ideas and related supporting details could be blended to form

a new, more encompassing main idea and were asked to rearrange their main ideas and accompanying supporting details into a logical order for the body of their report. Once the student had completed a first draft of the body of their reports, they received individual or small group instruction on adding an introduction (grab, thesis statement, definition of topic, and "road map" of main ideas) and a conclusion (restatement of "roadmap" of main ideas and a concluding impact statement) to fulfill the text structure requirements of a report. Students' drafts were not expected to be in "good copy" form but were expected to be legible enough for me to read and score. After their first draft was scored, students received a mini-lesson based on improving their reports. This then allowed for an editing phase followed by a proof-reading phase of their reports. The students had the choice of publishing the report on the computer, if they wished, for inclusion in a class publication. A suggested time line for students to complete a report was two weeks. After students had completed one report using two sources for their report, they were required, for their second report, to use three sources. This was to expose students to the processes of checking discrepancies of facts, combining similar information, and making choices about what information to limit when too many facts were available.

At this point in the report-writing intervention, it is important to note that students were either in Phase Two (structured RAP) or Phase Three (independent RAP and PAR). Because of the range of student activities and the individualised nature of Phase Three, I implemented Atwell's (1987) concept of *status of the class* which is approximately a 3 minute procedure requiring students to state what they will be working on. Students either stated their task as doing RAP or stated which phase of the writing process they were in. *Status* occured at the

end of the class discussion just prior to entering the independent work phase of the lesson. As the students settled after *status,* I circulated to help students, both in Phase Two or Phase Three. Even if students appeared not to require assistance, I made myself available to allow students to approach me with questions or requests for help.

PAR Strategy materials and assessment. Because some students were still working on Phase Two (RAP), I had a collection of articles that students were expected to proceed through until they reached the intended criteria. Thus, students still in Phase Two also began working at their own pace. Upon completing an article, students received the next article to RAP until they reached the intended criteria and could graduate to Phase Three. Students in Phase Three were encouraged to find their own sources at the school library or on the Internet; however, I, and a classroom assistant, had compiled and organised by topic a wide variety of materials that were placed in file folders in a banker's box. This compilation was to ensure that students would have access to materials even when the library was not available or when students stated, "I don't know what to write about!" Students could either use these materials as sources for their reports or use the collection to find a topic of interest. To ensure that reading difficulties would not be the cause for lack of writing, passages of a variety of reading levels were compiled from a wide variety of sources. This procedure was based on Mothus's (1997) ongoing compilation of reading materials for instructional purposes.

All reports produced during the instructional intervention period were collected and scored using the Report Assessment Form (Appendix F) based on the British Columbia Ministry of Education Writing Performance Standards. The assessment form was intended to be adaptable as instruction progressed. The assessment form allows for certain criteria to be

weighted heavier, lighter, or be completely eliminated from the scoring process depending upon the focus of instruction.

Data Collection

There were eight sources for data collection: (a) the students' classroom assignments and related evaluations, (b) the students' written reflections from their learning logs, (c) the students' preassessment and postassessment RAP strategy, (d) the students' preassessment and postassessment reports, (e) the student questionnaire, (f) archival records (student files), and (g) my field notes and day book.

Data were collected for three purposes. The first purpose of data collection was to evaluate and document student performance, to provide students with regular feedback, and to report to parents. The data used for this purpose were daily class assignments and learning logs. This is part of my usual work as a teacher. The second purpose of data collection was to inform my decision-making and actions as a teacher during the note-taking/report-writing unit. The data used for this were the daily class assignments, learning logs, and my field notes. The third purpose of data collection was specifically for poststudy analysis and synthesis. All data were examined as part of the analysis after the intervention was complete, but the preassessment, the postassessment, the student questionnaire, and student archival records were collected specifically for poststudy analysis. Following are descriptions of what data were collected, how they were collected, and my rationale for including these data in the study. (Note that I have already included descriptions of the classroom assignments earlier in this paper as they were an integral part of describing the note-taking/report-writing unit, so I will not repeat those descriptions here.)

Learning Logs

I have always used personal journals in my writing program as they are the mainstay of spontaneous writing. On the other hand, I only recently began to include learning logs in my writing program as a result of recognising the needs of my students to be given time to reflect upon their learning and my own needs to better understand the thinking processes of my students not revealed in regular classroom assignments. I view learning logs as a form of a personal journal; yet, they are more structured as they are intended for students to communicate about their thinking, learning, or understanding rather than being a pure "free write." (I had students write in prose for this study, but learning logs are ideal places to employ brainstorming webs, Venn diagrams, flow charts, and other forms of information organisers as well.) In this study, students were assigned learning log entries on the following three topics: note-taking, the RAP Strategy, and completing a report card on me. The topics were written on the board and students were given the guidelines to reflect on past, present, and future implications of their learning. Even though the students received a mark for the learning log entries during class time, the purpose for the study was to gain qualitative data.

Pre and Postassessments

The preassessment utilized two five paragraph source articles entitled "Spiders" (Appendix D) and "Black Widow Spiders." Students were required to state the main idea and three supporting details for each paragraph and then combine the two articles into a single five paragraph report. The "Black Widow" article was from the Steck-Vaughn *Comprehension Skills Series* (Sharpe, 1992), and I wrote the matching "Spiders" source article based on a combination of sources. I perceived the topic of spiders to be somewhat familiar and of

possible interest to all my students and a neutral topic in terms of gender. The first article was a general introduction to the topic of spiders. The second article was much more specific subject within that topic.

Other than the instructions provided (Appendix I), no further information or directives were provided. The only assistance I offered students was if they required me to read for them; otherwise, when they requested help with procedure I said, "Do what you feel is correct. I want to find out what you can do all on your own."

As the preassessment was lengthy, and I estimated that the students might require approximately an hour for each section, the preassessment was scheduled with a lunch break in between. Students were given until the end of the day to complete the assessment. No further extensions were given. As this was not a timed assessment, I did not document the completion time of students.

Ordinarily, in keeping with my usual instructional approach within the classroom, I would have scored the preassessments immediately to ascertain the abilities of my student. I made the decision, however, to score the preassessments after the completion of the study along with the postassessments so that my scoring would be based on the same criteria for both pre and postassessments. I also hoped to be open-minded about individual students' potential to learn the expository writing strategies by delaying the evaluation of their preassessment reports.

The postassessment was intended to be as close a duplication to the preassessment as possible with only a change of topic from spiders to cacti. The source articles, entitled "Cacti" (Appendix D) and "Saguaro Cactus" were again chosen with thought to the familiarity,

interest, and gender of my students. Again the first preassessment source article was a general introduction to the topic, and the second article was a more specific subject within that topic. The "Saguaro Cactus" article was taken from the Steck-Vaughn *Comprehension Skills Series* (Sharpe, 1992), and I wrote the second article based on a combination of sources. In the first section, students were intructed to list the main idea and three supporting details for each paragraph in complete sentences. In the second section, students were instructed to organise and combine the information from the two articles into a single five paragraph report. Administration of the postassessment was conducted in the same manner as the preassessment. Students began the assessment an hour before lunch, were given a lunch break of 45 minutes, and resumed the assessment immediately after lunch. The students were given as much time as they required after lunch, but no further extensions were given beyond that day. Students were not expected to do a good copy given the time and the workload required for each assessment.

Student questionnaire

Using a questionnaire (Appendix I) to gather data, was a decision I made at the latter end of the study. I developed four open ended questions and published one question per page leaving a generous space on each page for responses. The purpose of the questionnaire was to collect a variety of student responses reflecting cognitive information, metacognitive information, and attitude about the note-taking/report-writing unit. The questionnaire was administered by an alternate person, which was not originally intended. I was required to be absent from school and, nevertheless, decided to proceed with the administration of the questionnaire. A substitute teacher, who was completely unaware of the study and its

contents, administered and collected the questionnaires. Instructions for the administration of the questionnaire were left for the substitute teacher. Students were to sit in test formation (rows) and were expected to work quietly. Students were to be given as much time as required within the 90 minute block of language arts with no further extensions. Once the students had completed the questionnaires, they were instructed to hand in the questionnaire and read quietly while remaining students completed the questionnaire. As far as notes from the substitute teacher revealed, this procedure was followed.

Daybook and Field Notes

My teacher daybook was the record of the chronology and day-to-day activities of the study. It is there that I tracked when and how concepts were to be introduced, what materials were to be covered, and how students were to be grouped or regrouped. In contrast, was my field log which was completely reflective in nature. The entries were not done daily, as were the teacher daybook entries, but rather on my need to untangle ideas, solve problems, or reflect on specific incidents.

Data Analysis

Data analysis is inherent in the split second decision-making of teachers -- most of which goes virtually unrecorded as the teacher works with her students. The difference between doing regular classroom data analysis and data analysis for a study such as this one is the depth of the quantitative data analysis, the fine detail of the qualitative data analysis, and the corresponding time required to elicit this depth and detail. There were two distinct phases of data analysis in this study. The first phase was the necessary ongoing analysis that occured while immersed in the note-taking/report-writing unit, and the second phase was the in-depth,

poststudy analysis.

Ongoing Data Analysis

Preparing my daybook and writing in my field journal was ongoing data analysis as I was responding to the performance of my students and the events in the classroom. At times, I could barely contain my thought processes. At other times there was a lull. My field log was often my testing ground or, on a more negative note, a self-criticism of my performance. The impetus for many of my entries was conflict within me. The journalling process was a dynamic, problem solving endeavour in which I tried to regain a sense of equilibrium by seeking or committing to a decision or solution. Students' misunderstandings, errors, descriptions of their unique tactics, and interpretations were informative data that had an impact on my decisions about pacing, timetabling, student grouping, and general progress through the note-taking/report-writing unit.

Refinement of the Report Assessment Form. Another result of the ongoing data analysis was my refinement of the Report Assessment Form (Compare Appendices F and G) based on the British Columbia Ministry of Education Writing Performance Standards. The Writing Performance Standards are four level rubrics to rate students on meaning, style, form and conventions. At Level 1, the student's performance *does not meet expectations.* At Level 2, the student' performance *minimally meets expectations.* At Level 3, the student's performance *fully meets expectations.* At Level 4, the student's performance *exceeds expectations.* Because the rubrics are criterion based and suggest that learning is developmental, I found the four level rubric to be appropriate for assessment within a strategy instruction approach. However, there were two aspects of the original informative report

rubric that I wanted to modify. I found the rubric to be too general to inform either me or my students of the specific criteria related to report-writing. In addition, for establishing letter grades for report cards, I required scores which could not be generated from the rubric.

As I gained experience with students' end-products in the note-taking/report-writing unit, I began to modify the original rubric. My goals were to: (a) add a section to assess the use of the writing process, (b) add more specific descriptors related to the text structure of an informative report, (c) create a numerical scoring system, and (d) add a column to allow for the weighting of scores as related to instruction. First, I developed descriptors for the writing process to emphasise the importance of procedure rather than just end-product. Second, I included more precise vocabulary specific to report-writing. The refined descriptors were effective prompts for me to maintain consistency while marking. Third, I assigned five potential marks for each criteria for easy conversion to a percent.

I established that Level 1 (not *yet meeting expectations*) meant showing absolutely no evidence of the intended criteria and would receive 0/5 (0%). If a student showed evidence but was still not *minimally meeting expectations*, I used a Level 1.5 (descriptors would be a combination of Level 1 and Level 2) which would be close to but less than a pass (50%). Level 1.5 therefore scored 2/5 (40%). Level 2 (*minimally meeting expectations*) received 3/5 (60%). Level 2.5 received 3.5/5 (70%). Level 3 (*fully meeting criteria*) received 4/5 which also corresponded nicely with the 80% level that Schumaker et al. considered mastery in the Paraphrasing Strategy (1984). Level 3.5 received 4.5/5 (90%). Level 4 (*exceeding expectations*) received 5/5 (100%).

Attempting to assign a value to qualitative descriptors reaffirmed for me the

difficulties of assigning scores and letter grades to students' writing that may be best described qualitatively. Statistically, it may have been more effective to have used a continuous scale rather than a categorical one with four levels. However, I wanted to maintain consistency with the BC Ministry of Education. Thus, my scoring system has weaknesses when translating the four level rubric to scores out of five, percent, and logical letter grades. The intervals are unequal as are the school district's intervals of letter grades (F from 0% to 49%, C- from 50% to 59%, C from 60% to 66%, C+ from 67% to 72%, B from 73% to 85%, and A from 86% to 100%). There are the two extremes of 0/5 (*does not meet expectations*) and 5/5 (*exceeds expectations*) which creates an assessment that "marks hard," because effort is not accounted for if the criterion is not evident. In addition, some criterion, such as the introduction, contained four sub-criteria all of which had to be met to *exceed expectations.* What was useful about translating the rubric into a percent, were the indications of small changes in scores that a four level rubric could not capture. In addition, I found I was able to derive scores that could be translated to reasonable letter grades based on instruction. If no instruction occured, a section could be weighted as 0 or as not applicable. The assessment form I began the study with and used throughout the study is found in Appendix F. My final version which evolved during the study and still further during the poststudy phase is found in Appendix G. The assessment form, although only one page, represents a great deal of my own learning as I experienced and reflected upon the cognitive and metacognitive functioning of my Grade 6/7 students.

Poststudy Scoring, Data Compilation, and Analysis

The poststudy scoring and data analysis process occured over the lengthy time frame of

eight months. The second phase of poststudy analysis was a five step process: (a) organising the data, (b) comparing preassessment results to postassessment results, (c) documenting patterns of understandings, behaviours, and end-products of my students, (d) analysing data from all sources for themes related to strategy instruction and the writing process approach, and (e) synthesising the findings for an holistic interpretation of what occured in my classroom while using a strategy instruction approach for teaching note-taking and report-writing.

Organisation. The first step of the poststudy data analysis was the organisational phase. Because I was going to analyse the data without a computer programme, I needed an efficient retrieval system. Related data were compiled in binders depending upon the nature of the data collection. Student data were organized in alphabetical order by the students' last names (which were further organized chronologically). Assessment and questionnaire data were separated from classroom assignments. Teacher data were organized chronologically and assigned page numbers.

Note-taking in the pre and postassessments. Prior to the onset of the instructional unit, I had decided to score both the pre and postassessments after the completion of the study using the most current revisions of the assessment forms. My goal was to remain as consistent as possible between pre and postassessments. Over several consecutive days, I began by scoring the note-taking section of both the pre and postassessments using the RAP Mark Sheet (Appendix E). The first round of scoring was a quick, instinctive process familiarising me with the students' products and yielding a total score out of 20. There was a subscore for the five required main ideas out of five and a subscore for the required fifteen supporting

details out of fifteen. Each main idea and each supporting detail received either a score of 1 for correct or a score of 0 for incorrect. The RAP Mark Sheet also contained an error analysis section for each supporting detail error. During the first scoring phase of RAP, I established criteria to ensure I was objective and consistent: (a) I did not count grammar, punctuation, and spelling errors; (b) I did not require complete sentences as long as each main idea and supporting detail was clearly evident; (c) I did not require students to present their work in the RAP structure that was later learned in class; (d) I defined plagiarism as copying any five words in a row from the source article. A plagiarism resulted in a score of 0 for that particular main idea or supporting detail. (I realize that five words in a row is an arbitrary, simplified standard for the complex issue of plagiarising; however, from my experience with the students' copying, I found that five exact words signalled copying rather than a need for standard English usage.)

The second scoring phase of the RAP sections of the pre and postassessments occured one month later over a period of several consecutive days. The purpose was to establish final marking criteria and to deliberate carefully over each main idea and supporting detail entry. This phase of assessment required much more time and reflection. In addition, I added to the results by doing an error analysis of each incorrect main idea.

The third scoring of the note-taking sections of the pre and postassessment occured one month later over a period of several consecutive days. The third scoring utilised all the same criteria and was considered a "safety check" for objectivity and accuracy. I wanted to be sure that even with the passing of time my personal scoring resulted in the same score. Where the score varied slightly, I re-examined the criteria to make a final decision.

Raters. The fourth and final scoring of the RAP section introduced two additional raters for main idea development. I felt that the check-recheck method of assessment was reliable and sufficient for the supporting details which required paraphrasing of any three facts; however, paraphrasing main ideas is more complex and open to interpretation, and I wanted to ensure a degree of objectivity. First, each rater was given the two source articles (about spiders) from the preassessment and the two source articles (about cacti) from the postassessment. The raters were asked to record the main idea for each paragraph independently. The two raters and I then met to compare our main ideas. When one of the other rater's main idea matched mine, my main idea was accepted. When no main ideas matched mine, the main idea was rejected. A discussion then ensued between the raters and me to establish a new main idea. We then returned to the pre and postassessments of only those paragraphs where my main idea had been rejected. The raters and I jointly reassessed the note-taking of eighteen of the 24 students' pre and postassessments. I completed the reassessment of the remaining six assessments based on the new criteria and adjusted any scores accordingly.

Error analysis. The final analysis of the first section of the pre and postassessment was to tally errors. I also analysed the presentation of the information of the four assessment articles (Spiders, Black Widow Spiders, Cacti, and Saguaro Cactus) to ascertain whether certain text structures were easier or more difficult for the students to process based on the patterns of errors. I identified whether the main idea was stated or implicit in each paragraph, identified where the main idea, if stated, was positioned within the paragraph, and counted the number of possible supporting details that could be derived from each paragraph.

Quantitative methods. I used t-tests to compare the readability levels of the articles. The t-tests were used to determine whether the scores from the two articles of the preassessment could be combined as one total score and the scores from the two articles of the postassessment could be combined as one total score. The articles were compared based on total number of words, number of multi-syllabic words, sentence length, and the number of compound sentences. A t-test was also done to compare the preassessment articles to the postassessment articles to determine if they were significantly different in readability. When it was determined that there was no significant difference between the readability of any of the four articles, the scores from the two articles in the preassessment were combined yielding a total out of 40 and the two scores from the postassessment were combined yielding a total out of 40.

Once each student had a preassessment note-taking score and postassessment note-taking score, I used t-tests to compare the total scores. I was interested to see whether student gains could be considered significant. I did further t-tests using main idea subscores and supporting detail subscores between the pre and postassessments to determine whether students performed significantly differently on restating main ideas or supporting details.

Report Section of the Pre and Postassessments

Further adaptation of the assessment form. For scoring the preassessment and postassessment reports, I again modified the Report Assessment Form (Appendix H) for three main reasons. First, the assessment situation controlled the genre, the topic, the audience, and the time frame for work completion meaning my students' choices were limited. Therefore, I eliminated three sections: purpose, audience, and publishing. Second, I wanted my analysis to

focus primarily on elements for which my students had received explicit instruction. Therefore, I further eliminated the three sections of sentence structure, conventions, and proof-reading. Finally, I eliminated the editing section because of the time factor of the assessments and because if editing did improve the text structure, higher scores were usually already achieved in another section. I weighted the scores according to the emphasis the criteria received during instruction. Sections that highly corresponded to direct and explicit instruction and required consistent effort throughout the paper were weighted more heavily. For instance, including main ideas and supporting details, using specialized vocabulary related to the topic, and organising the paragraphs according to main idea and supporting details were weighted the heaviest. Thus, the assessment version of the Report Assessment Form scored meaning out of 30, style out of 15, form out of 35, and process out of 20 for a total of 100.

In the first phase of scoring the reports, I read through and rated (based on initial impression) all preassessment and postassessment reports using the rubric descriptors on the Report Assessment Form (Appendix H). My intention was to familiarise myself with the range of end-products and to clarify and consolidate in my own mind baselines for *not meeting expectations, minimally meeting expectations, fully meeting expectations.*

Once I completed the first phase of scoring, I began supplementing the descriptors on the Report Assessment Form with criteria I could count. First, I established that five paragraphs (an introduction, 3 body paragraphs, and a conclusion) would meet expectations for a report. Within the body paragraphs, I expected a stated or inferred main idea connecting a minimum of three supporting details. (Students were not required to place their main idea sentences in a particular location in their paragraphs, nor were they required to include a main

idea sentence if the information supported an implicit main idea. Part of the instruction of developing paragraphs was that different authors compose paragraphs differently and can signify author style.) A minimum expectation was that each paragraph would contain four sentences. Within each sentence, I could expect at least two words to be specialized vocabulary. Within a paragraph, I could expect approximately two words to be transition words. In the second phase of scoring, I counted and recorded occurrences of main ideas, supporting details, specialised vocabulary, number of paragraphs, and number of words. (See Appendix J for a detailed description of my scoring procedures.) Based on my counts, I then adjusted any scores where my first impression appeared too low or high compared to the counts.

The counts I applied after the first phase of scoring is much more rigid and time consuming than I would typically use for regular classroom assessment. In addition, counts such as those described above may not take into consideration unique language choices and creative expression. However, there are two main reasons that I scored the assessments rigidly for this study: (a) I wanted to maintain a degree of objectivity by being consistent from preassessment to postassessment. I prefer certain styles of writing which I did not want to prejudice my scoring; and (b) One purpose of this study was to focus on the text structure of a report. Text structure can be formulaic and can sustain some rigidity when being assessed. For example, I initially provided students with information about text structure that could be written as the formula: *introduction* + *body* + *conclusion* = *report.*

The final step was to have a second rater score the assessment reports. Approximately 30% percent of the reports (16 out of a total of 48) were randomly chosen by drawing eight

student names from a pool for preassessment reports and eight student names for postassessment reports. A gender quota of eight females and eight males was reached by discarding a draw and redrawing until the quota had been filled. The rater was given a summary of my criteria (Appendix J) . Rather than going through the lengthy process of scoring that I did, the rater was not required to do the detailed counts that I had done but was to be guided by the assessment form, past experience, and my summary of the criteria. The rater was given five practice reports which he scored and we then discussed. When the rater felt ready, he scored the sixteen anonymous samples. The interrater reliability ranged from 86% to 100%. Interrater reliability was calculated using the formula: lower score / higher score x 100.

Qualitative Data Analysis

My method of analyzing the data was primarily inductive as I was inferring from specific data whether my instructional methods for promoting RAP and PAR Strategy enactment could be considered effective or ineffective. Evidence of effectiveness were gains in scores, improved quality of student performance, positive or insightful student comments, and evidence from my field notes that my methods engaged students. Evidence of ineffectiveness were little to no gains in scores, little to no growth in the quality of student performance, student criticisms, and evidence in my records that lessons had not gone well.

After organising the data for effective retrieval as mentioned earlier in this chapter, I created a grid, or checklist, to document evidence of the students' comments. The students' names were listed vertically on the left, and spaces were left blank horizontally across the top. As I read through the first student's written comments, I recorded, across the top of the

checklist, each new topic as I encountered it. I recorded positive/neutral or negative comments in two ways. Either, I used a checkmark to indicate a positive/neutral comment and an X for a negative comment within one column, or I used two columns for a single topic, one for a record of the positive/neutral comments and one for the record of the negative comments. Each subsequent student's comments were analysed using the existing checklist of topics. If new topics emerged, they were added to the checklist. A blank space indicated that a student had made no comment about the topic. I continued this system when analysing my field notes; however, the checklist recorded the page numbers of my field notes vertically on the left (rather than the students' names) with the same blank spaces for topics across the top. Using this checklist system, I could see at a glance the frequency of comments as well as trace the comments to their precise location.

Once all data were categorised by topic, I found commonalties that linked the topics according to the broader themes I had deductively derived from the strategy instruction literature. The themes were intended to answer my research questions surrounding students' knowledge and personal experiences, my teaching methods, and what I perceived to be evidence of cognitive and metacognitive functioning.

Conclusion

In the first section of this chapter I describe the site, the participants, the duration of, and the nature of instruction and assessment of the note-taking/report-writing unit. The intention of this section was to emphasize that this study occured in a natural school setting, included a typical range of students, and described my primary role as a regular classroom teacher. In the second section of this chapter, I describe my methodology surrounding data

collection and analysis. I summarised the sources of data and distinguished between the ongoing data analysis in keeping with my role as teacher and the poststudy data analysis in keeping with my role as researcher. The data are student scores, descriptors of student performance, student narratives, and my own teacher narratives; all of which were cross referenced to develop themes for discussion. In the following two chapters, I have chosen to combine results and a discussion of those results. Chapter Four focuses primarily on the progress of the students, and Chapter Five focuses primarily on my reflections and interpretations of my role and performance as a teacher enacting a strategy instruction model.

CHAPTER FOUR

Results and Discussion of Student Progress

Introduction

The results and related discussions are presented in Chapters Four and Five. Chapter Four is largely a discussion of the results of students' end-products, whereas, in Chapter Five, I present my observations of the classroom environment and discuss the processes that occured during the note-taking/report-writing unit. In each section of this chapter, I summarize a set of results which I then immediately interpret and discuss. Next, I explain the decisions I made as a teacher and a researcher to contextualise the results I am presenting. Following that, I discuss the learners' in terms of a taxonomy of student development. I present the data in four parts: a) keyword identification, b) progress using the RAP strategy, c) progress using the PAR strategy, and d) evidence of metacognition.

Overall Student Progress Through the Report-writing Unit

The instructional phase of this study occured over 13 weeks. As a strategy instruction approach was new to me, I initially only outlined my unit plan in the most general of ways when deciding upon the order of instruction. As both the keyword and RAP sections were criteria-based rather than time-based, I was unsure how long each instructional phase would last. In Appendix K, I have summarised the sequence of instruction that developed over the course of the study. Although the exact time frame of the unit was not established in advance, I was able to communicate to the students what the expectations were for completion times of assignments. During the keyword phase, within one lesson I expected students to read five unrelated paragraphs and list the key words. During the RAP phase, I again expected students

to read five paragraphs and complete a related RAP for each paragraph. (Some students did not reach this criterion but only completed 3 paragraphs in a lesson.) During the note-taking and report-writing phase, I expected students to choose a topic, find sources, read and take notes on the sources, reorganise the notes, and complete a draft within 2 to 3 weeks (9 lessons) depending upon the depth the students wanted to attain in their reports.

Although progress through the note-taking/report-writing unit followed an instructional sequence, students met the criteria in their own time. Students created their own pace based on capability, ability to self regulate, collaboration with peers, and motivation. There were, however, clusters of students that progressed at similar paces; therefore, instructional groups could be formed based on like needs. These instructional groups varied depending upon the students' needs at different times. First, the whole class remained as one group during the identification and categorisation of key words and during partner work enacting the RAP Strategy. Once students began working independently on RAP assignments, one group of nine met the RAP criteria (three scores in a row meeting or exceeding 80%) within three or four lessons and graduated to the more independent report-writing phase. A second group of four students met the RAP criteria by the seventh assignment. A third group of six students did not ever meet the RAP criteria of 80% but, nevertheless, began the steps of writing a report near the end of the study. This latter group of students continued to practice the RAP Strategy during the independent work phase of each lesson.

By the end of the unit, four students had not handed in a completed report but were either in the process of gathering materials, reading about their topic, taking notes in RAP form, or drafting. Nine students handed in one report and were working on their second

report. Seven students handed in two reports and were working on their third. Five students handed in three reports.

Instructional Rationale

At the time of the instruction, I was generally satisfied with the my students' learning. However, afterwards as I documented the students' progress for analysis, I became more aware of how time and scores weakened the evidence of progressthat I believed I had seen. I spoke to a colleague of my doubts, and she asked, "How did you feel at the time you were making your decisions?" Through our subsequent interchange, I was reminded that one of my purposes in doing this study was to reflect on my problem solving and decision making with the insights of hindsight vision. I had to come to terms with the idea that the decision making I made during the study created the "mistakes" I later regretted. On the other hand, the "mistakes" were the impetus for new learning. Thus, I view the "mistakes" with mixed feelings because of the role they play in my becoming a more effective teacher.

Three criticisms regarding my students' overall progress can be made that I will introduce and discuss here. The first criticism is that I introduced all students to the same strategies. The second criticism is that the number of completed reports appears to be a low number given the duration of the note-taking/report-writing unit. The third criticism is that some students only advanced to the report-writing stage of the unit near the conclusion of the study.

Same Strategies. The first criticism surrounds the issue of what strategies should be taught to which students. Within strategy instruction, there are those who believe a strategy should only be taught to those students requiring the strategy (Harris & Graham,

1993). On the other hand, Vaughn, Gersten, and Chard (2000), in their meta-analysis of interventions that included students with LD, found in all cases that when an intervention produced gains in students with LD, the gains were as significant, and most often greater, in the regular students that had been included in the studies. There always seems to be room for growth. To put this into context, I asked myself, "Would I benefit from strategy instruction related to teaching strategies?" Without a doubt in my mind, my learning about teaching strategies will never end. I have been a learner in many professional development situations, and I have never walked away with no learning. I believed that my students would refine and enhance what they already knew. Thus, going into this study, I decided that there would be times when the whole class would receive the same generic declarative, procedural, and conditional knowledge about the writing process; about note-taking and report-writing, and about the RAP and PAR strategies. My rationale was that although note-taking and report-writing likely would not be new for any of my students, my teaching approach and the RAP and PAR strategies would be. Second, I believe that learning to write is developmental and lifelong, so different learners focus on different information even when the lessons are similar from year to year. Wong et al. (1996) also discovered that different students focussed on different information although instruction was deemed to be the same for all students. What I discovered about the RAP and PAR Strategies was that it provided those students who already used note-taking and report-writing strategies with the opportunity to seriously reflect upon, compare, and improve existing strategies. There was only one student who overtly objected to my expecting her to us the RAP Strategy when she already had a note-taking strategy in place. She felt RAP organised as main ideas and supporting details was

a lot of work compared to her lists of keywords and phrases. I had the agenda of my study to follow, so I hesitated in suggesting to students to modify RAP strategy in case its benefits would be lost. This was my reductionist tendency of needing the end-product to look a certain way. We never resolved our difference of opinion, but this student did present her notes in modified RAP form and worked with great diligence throughout the unit.

Productivity. The second criticism may be levelled at the low number of reports that students produced by the end of the study. If the numbers are compared to the six essays that Wong and her associates (Wong et al., 1996) had participants complete in six weeks, the numbers appear low. However, Wong's participants completed essays in approximately 2.5 hours (3 lessons) because they were short (approximately 150 words in length) and contained information that the students already knew. The nature of the students' compositions in this study were different than five paragraph essays. There were no restrictions on length because it was the students' interests that directed what they would include in their reports. The reports were structured as an introduction paragraph, a set of body paragraphs, and a conclusion paragraph, but the bodies of their reports could contain as many paragraphs as they wished. Their reports required substantial time for the process of research and note-taking in addition to the drafting and editing of the end-product. Students required at least six lessons to find sources, read sources, RAP their sources, organize their notes, and then draft their report. Once the up-front work of note-taking and organising those notes had been done, the draft of the reports actually went quickly.

Slower progress by some students. The third criticism is that some students remained primarily in the RAP stage for the entire unit and only began independent report-writing in the

thirteenth week. If I were to repeat this study again, I would favour a constructivist approach in which all levels of students were involved in authentic literacy processes from the beginning, while being supported in the areas in which they require further learning or guidance. This would have allowed my students to apply their knowledge -- beyond the controlled RAP assignments. Englert and Mariage (1991) believe if the writing process is fragmented for instruction, as is often done for students with LD, these students may have a hard time conceptualising the "whole" of the writing process. In addition, when using a constructivist approach, learning is seen as developmental, so inaccuracies and problems that emerging writers have not yet solved are part of the process of learning to write better no matter what level they are at (Englert et al., 2001). The negative implication of some students focussing on the isolated RAP Strategy is that these students were not given very much opportunity to experience the problem solving that accompanies producing text length papers (Englert et al., 1988). The belief is that students who do not write well need more rather than fewer writing experiences, and if writing is seen as a natural, developmental process, students should be able to participate at whatever level they are able (Mariage et al., 2000). As it was, I followed a reductionist approach by isolating note-taking from its purpose -- to produce a report. I also required mastery (80% correct) of the RAP Strategy, as recommended by Schumaker et al. (1984), before they could graduate to the independent report-writing stage of the unit. This may have seemed arbitrary to the students. A final potential negative consequence of keeping a group of students at the RAP stage is the grouping itself. Homogeneous grouping has been found to have negative impacts on students because of lowered self-esteem, restricted friendship choices, and longer instruction in areas in which

they may be struggling (Vaughn et al., 2000). However, I found the homogenous grouping was not rigid, and there were benefits to keeping the tasks and expectations familiar and structured.

Because of the nature of the note-taking/report-writing unit, every student received some sort of small group instruction; however, the students with LD received more instruction from me than any other group. Whenever I worked with a group of students with LD (the groups were fluid), I practised a new, personal discourse about learning difficulties. I felt that it was best to admit the difficulties aloud, validate that these difficulties often required these students to work harder than the others to get their work completed, and that my job was to help them learn better. I found that in not laying blame, trying to understand their difficulties, and taking on some of the load myself, I was perceived as a validator and was more able to motivate my students with LD and in a better position to alter self-defeating behaviours (Borkowski, 1992). Although the students knew they were not progressing through the unit at the same rate as other students, by recognizing the demoralising effects and countering them, I had the opportunity to say, "The way you learn is okay, but it just might take a little longer, and you just may need more help right now." In addition, the view that students with LD were isolated from the rest of the class was not physically evident. All students, regardless of level, participated in the whole-class discussions. Group instruction did not occur everyday, so all levels of students were expected to pick up where they had left off the previous day. All students were free to choose a location to work and were free to move around the room asking for help. Also, magnifying the specific instruction that occured during this study, does not highlight the methods that I used throughout the day to encourage all my

students to greater levels of independence and responsibility.

This brings me to the point that learning cannot always be gauged on productivity related to time or end product. At many times in this study, discussion resulted in learning that was never documented. Unfortunately, in the school system, unnatural expectations of student learning occurs because of unnatural time constraints forcing a desired end product. There never seems to be enough time to allow students to learn before having to "move on." The students with LD did make significant gains using the RAP Strategy. The question to consider is: Would they have made those gains if I had terminated the instruction in favour of a more constructivist approach? Some researchers believe if "strategies acquired are not practised to a point of automaticity, the dual demands of learning content plus strategies may result in students abandoning a particular strategy for a simpler but less effective one" (Meltzer et al., 2001, p.86). Poplin (1988 b) also states that "people just stop trying to learn things that seem too difficult for them" (p. 406). However, I observed that my students with LD, with a history of failure and behaviour issues, made a conscious effort to achieve the goal of advancing from the RAP stage to the PAR stage. In the end, all students experienced the independent report-writing stage, although four students did not complete a draft that could be considered a report. I occasionally had to address behaviour and motivational issues within this study, but overall, students with LD were not passive, they did learn, and I was able to cede more and more responsibility to students with LD as they moved closer to researching independently a topic of choice (See also Mothus, 1997).

Finally, the RAP Strategy is a far-reaching strategy integrating reading and writing. Enacting this strategy gave students the potential to find main ideas and supporting

details in any genre of writing and across any content area. Using this strategy, even without including the report-writing feature of this unit, required a considerable amount of learning. As with the findings of De La Paz (1999a) on her work on strategy instruction, I taught RAP to all students in my class because I viewed it as appropriate for the majority of the students, regardless of their initial reading and writing abilities.

In the previous section, I summarised the overall progress of the students in the note-taking/report-writing unit and presented a rationale for making the instructional choices I made. I have addressed potential criticisms of my work before the specific results of this study, so as to establish a context for understanding my results. In the next section, I begin with a brief rationale of how I classified student responses. This is followed by the results which are organized into the following sections: a) the introduction to report-writing/keyword phase b) the RAP strategy phase, c) the PAR strategy during the independent report-writing phase, and d) evidence of student metacognition.

Ranges of Student Performance

In the literature, students are frequently referred to as low, average, or high achieving which suggests learning is one-dimensional rather than developmental. Terms such as these reflect a tendency of the reductionist perspective, to create deficit models, in which students are measured on one criterion to determine whether their gains are significant or not. In contrast, I sought descriptors that would have fewer negative implications and that would capture the potential for children's learning. A taxonomy created by Biggs and Collis (cited in the meta-analysis of Hattie et al., 1996) outlines the hierarchical stages through which students progress when applying a strategy. At the first stage, the *prestructural stage,* a task

is not completed in an appropriate way. At the second stage, the *unistructural stage,* one aspect of the task is completed appropriately. At the third stage, the *multi-structural stage,* parts of the task are completed serially but are not interrelated. At the fourth stage, the *relational stage,* a task is completed as an integrated whole. At the fifth and final stage, the *extended abstract stage*, understandings of the task are generalised to a higher level. For my purposes, I used the concept of this taxonomy to create three stages in keeping with the three levels of knowledge: declarative, procedural, and conditional. I termed the first stage *literal.* At this stage, students express declarative knowledge about task performance but do not yet fully understand or apply the facts. I termed the second stage *procedural.* At this stage, students consistently enact the RAP and PAR Strategies but meaningful personal connections are emerging or not yet evident. I termed the third stage *metacognitive.* At this stage, students provide frequent and consistent evidence of their conditional knowledge and their awareness of themselves as learners in the past, present, and future.

Students' comments, in the following results, were retrieved from the students' learning logs and final questionnaires. Topics or suggestions for student reflection were provided by me at the time of the assignments but were intended to encourage open-ended responses and to encourage reflection upon past, present, and future significances. It is important to note that students' comments rather than the students themselves were categorised as demonstrating a literal, procedural, or metacognitive approach to the tasks of this unit. My rationale for categorising comments rather than individuals was that different tasks could elicit different levels of expertise within an individual. In addition, high scorers in the pre and postassessments were not necessarily metacognitive in their reflections just as low scorers

were not necessarily literal in their reflections. Although there were patterns that high scorers tended to display behaviours that pointed to metacognitive functioning, and low scorers tended to be more literal, no stage was exclusively represented by high or low scorers. In addition, when categorising students' comments, I placed each comment within the context of my observations and knowledge of that student during this study. Thus, there were occasions when I rated a comment as metacognitive on the basis of my contextual knowledge of that student's background thinking and experiences that had lead to his/her remark, even though a naive rater might not have rated the comment out of its context as metacognitive.

Keyword Activity

During the key word phase of the study, students were expected to read isolated paragraphs on a variety of non-fiction topics with the intent of categorising key words as either necessary or author's choice. Some students found categorising words easy and were able to develop rules for themselves such as proper nouns are necessary or verbs are more likely to be author's choice. Other students went through a phase of overcategorising words as author's choice. They would substitute words like plane flyer for pilot or tall plant for tree. Not only did we have some good laughs over this, but it opened discussions about levels of sophistication of writing and what the audience might require. One discussion was about trying to recognize what the intent of the author was. Was the paragraph about a commercial flight where the word *Captain* could be substituted for the word *pilot*? The second discussion was about thinking about the level of the reader. Some students grasped that a very young audience might better understand the words plane flyer than pilot. In the year following this study, I changed this activity to include a category called "My Choice." Students had a third

column in which they replaced author choice words with words they could substitute to keep the initial intent and integrity of the article.

For some students the keyword exercises and discussions were meaningful and categorising the keywords was intuitive and automatic. These students may have been reductionists at heart. For others, perhaps the holists, the exercise was difficult because all words sounded or were important to the entire paragraph. Basically, I now view the keyword activity as an activity that could take place in the part section of whole-part-whole instruction rather than as the first phase of the unit. The keyword activity isolates a portion of the possible thinking of an effective paraphraser but in slow motion. An effective paraphraser automatically in a split second paraphrases a sentence without plagiarising. This activity could be restricted for use with only those students who are plagiarising and need a tactic when note-taking to keep from doing so. Also, it could be used as a game to see how many different ways students paraphrase a paragraph. Despite my reconsiderations of the role of the keyword lessons in the overall note-taking/report-writing unit, many students appear to have benefited.

> Literal: "In the past I have noticed that I plagiarised because no one has taught me how to find key words."
>
> Procedural: "It taught me to read the paragraph and think of the keywords and see if I could replace them with my own."
>
> Procedural: "The hardest part of note-taking is making sure you don't plagiarise. In the past I could not change a paragraph into my own words. I did not know which words you could change or could not change so I did not change any words."
>
> Metacognitive: " I used to plagiarise the author's words thinking they were necessary because I just didn't understand the difference. Going through the words sentence by sentence and pick and change words is a great strategy for me because if I go by sentence and not just focus on the whole paragraph, I can focus on each word individually."

All students within two weeks became more effective at categorising key words as necessary words or author's choice words; however, some students still relied on guesswork and struggled with trying to identify and categorize key words.

> Literal: "The thing I have trouble on is sometimes I'm not sure whether its author's choice or necessary. I know what the words mean but it don't help."

I suggested that all words are equally important in a sentence so it makes sense, but that different words have different jobs. We focussed on the keywords, or vocabulary, that teach us about a topic. My explanations assumed three things: that the students understood which words were important based on the original intent of the passage, that the students had enough knowledge of a topic to be able to substitute words, and that they had a ready list of synonyms. Broken down this way, what initially seemed like a simple activity of highlighting key words became a complex system of knowledge that was difficult to make explicit. I could not capture in my instruction the automatized knowledge that one has about what words are important, what words are necessary vocabulary, or what words are the author's choice. Nor did I ever elicit the explanation from students who were having difficulty beyond, "I just don't get it." If a student was at this level of frustration, I would typically focus on the behaviours that the student had or had not enacted such as, "Have you read the passage?" or "Have you highlighted the words you think are important in this paragraph?" Then I would work with the students by guiding them through the activity and having them describe what they were doing and why? Perhaps the time would have been better spent eliciting the thoughts and emotions of the student, rather than focussing on the end product, until I really understood how they were processing the paragraph in front of them. That way instead of moulding the child to my

way of thinking, I could have moulded the task to fit the thinking of the student.

Student Progress Using the RAP Strategy

RAP Strategy Format

The whole purpose of the RAP Strategy was to be able to restate an author's words as main ideas and supporting details. Initially, I presented a rigid structure for presenting RAP. (See Samples 1, 2, and 3 of Appendix L.) The main idea, abbreviated #1 MI, was to be restated in one complete sentence followed by three supporting details stated in three separate and complete sentences, abbreviated as *SD 1, SD 2,* and *SD 3.* Most students maintained this format even during the independent phase of report-writing. Sixteen of 25 students in the postassessment still used the abbreviations *MI* for main idea and *D* or *SD* for supporting detail as was introduced during instruction of the RAP Strategy. Other students kept the format the same but left out the abbreviations and numbers for main idea and supporting detail.

Declarative Knowledge and Discourse Development

The students and I began to use a common language (*paragraph, main idea, supporting detail, plagiarism*) in our discourse of note-taking. According to Mariage et al. (2000) all students can become part of a literacy community by being given a common language to discuss text and to dialogue with one another. It was not a struggle to teach the vocabulary because it was integrated into our everyday work and discussions. Over time, vocabulary use developed naturally. Students went from pointing at parts of the paragraph and saying, "This here," to saying, "I think this sentence is the main idea." or "Can we combine these two paragraphs because these sentences are just more supporting details." Students were able to summarize, at various levels of sophistication, their declarative and procedural knowledge of

the RAP strategy. Many students had a strong familiarity with and used with ease the working vocabulary we had developed throughout the unit such as *note-taking*, *paragraphs*, *main idea*, and *supporting details*.

> Literal - "I have learned how to do RAP. I have learned how to do PAR. RAP has showed me how to take notes. PAR has showed me how to put my notes into paragraph."
>
> Procedural - "RAP is a simplified way to remember how to take notes. RAP is easy because the main idea is what your paragraph is about and the supporting details help explain the main idea."
>
> Metacognitive - "To find the main idea it sometimes may be in the first sentence but some authors like to put a grab there first. If the main ideas isn't in the first sentence you could look for repeated words or make a word list."

In general, when defining concepts or retelling a procedure, the students with learning disabilities had the tendency to be general and literal with little interpretation. The statements tended to express a clear working definition with an occasional insight into process. The metacognitive statements included a titbit of information that may have been touched upon only fleetingly during direct instruction but provided insight into the complex nature of writing a report.

Past Experiences

Most students communicated that they,in the past, had been required to take notes for the purposes of writing a report. Consistently, however, students perceived they had not been taught this skill. Rather, they perceived that they were *told* to write down information that interested them and to avoid copying. Consequently, the common description of a note-taking strategy that students reported to me involved reading a passage, copying a few sentences down -- sometimes changing a few words to avoid copying. I did not challenge students'

views of their past experiences, nor did I specifically approach past teachers asking if they had explicitly taught note-taking or how they had taught it if they had. (In hindsight, interviews with past teachers may have been complementary data to the students' comments.) I did, however, recognize that students needed to be exposed to instruction in note-taking in which they were encouraged to reflect upon and refine their existing understandings of and behaviours when note-taking.

Students had mentioned that part of their past note-taking instructions were to copy down facts they found interesting. Thomas, Englert, and Gregg (1987) and Englert et al. (1988) found that many students, especially students with LD, included irrelevancies or personally interesting information rather than focussing on the topic. I realized that inclusion of irrelevancies could be attributed to a misinterpretation of instruction. The teacher says, "Take notes on what you find interesting," recognizing that a student's interest in a topic is critical to productivity. However, the student potentially interprets this as write about what you find interesting without thought to the needs of the reader. When interest was the sole strategy for inclusion of facts, reports in the preassessment were random, subjective entries of what the author liked and disliked about a topic rather than a cohesive retelling of facts (Sample 1 in Appendix N). Instruction in the RAP Strategy provided students with a system of taking notes that contained an inherent structure for a future report.

Sentencing

The Paraphrasing Strategy (Schumaker et al., 1984) required marks to be deducted for sentencing errors such as capitals at the beginning of a sentence and end punctuation. I began to realize that deducting marks for sentencing errors was not giving me a clear picture of how

accurately students were identifying main idea and supporting details. I then began deducting fewer marks for sentencing errors to a maximum of two marks of twenty. In doing this, students could still graduate from the RAP group without being held back for sentencing errors. As I do not teach separate formal grammar lessons, I felt that RAP was a way to integrate instruction about simple sentences. Some students had pre-existing sentencing skills and were using capitals and end punctuation appropriately; other students were capitalising and punctuating erratically (Sample 1 in Appendix L). One student included only three periods in his preassessment. By his postassessment, the student was readily capitalising and using end punctuation without formal grammar lessons. I believe, this student became conscious of sentencing because of the formatting of the RAP assignments.

Main idea sentences versus headings. Some students had difficulty stating the main idea as a complete sentence. Some students restated a main idea as *"How spiders hunt"* and found it difficult to restate their words as a complete sentence when prompted. In order to validate the students efforts, I stated that their words actually made excellent headings that could immediately be followed by the full main idea sentence. On the other hand, other students deliberately chose to state their main ideas as headings (Sample 2 of Appendix L) rather than complete sentences but maintained detailed and complete sentences for supporting details. (The topic of whether I should have required the use of complete sentences for note-taking is an issue I had to resolve for myself which I describe in Chapter 6.)

Plagiarism

Using the prompt in their learning log to reflect upon past experiences, a pattern of responses indicated that students in this age group recognized a widespread tendency to

plagiarise. Timely to our discussions was a scandal at the university level of mass plagiarism. this lead to discussions about plagiarism being an offence that could lead to expulsion from school. Many students added the word plagiarism to their personal lexicon and used it with the authority of understanding the academic consequences of plagiarism.

> Literal - "How not to copy others words."
>
> Metacognitive - "It is hard not to plagiarise when the original paragraph sounds so good. If there are lots of important words (like names, dates etc.) it is especially hard to use all the information and still make it sound like you're not plagiarising."

Plagiarism counts dropped from the preassessment to the postassessment (145 counts to 51 counts) but plagiarism was still present. In the preassessment, plagiarism was the third most frequent main idea error (8% of total main idea errors) and the most frequent supporting detail error (35% of the total supporting detail errors). In the postassessment, plagiarism dropped to 4% of the main idea errors and 23% of the supporting detail errors, which was the second most frequent supporting detail error. Sample 1 of Appendix L contains what I categorised as exact plagiarisms, meaning the whole sentence was copied (compare to the *Spiders* article in Appendix D). Whereas, the postassessment of this same student had substantially fewer plagiarisms that were no longer exact sentences but reduced to five words in a row. I marked stringently, even if the plagiarisms were not key words, to maintain a strict standard when scoring the assessments. I did not want to have to decide when five copied words in a row would or would not constitute a plagiarism. Likely, I overreported plagiarisms, but I was consistent from preassessment to postassessment.

Another common topic that emerged related to the concept of plagiarism was the common understanding that students held about why they plagiarised. Many students related

their plagiarism to the lack of direct and explicit instruction related to note-taking as was mentioned earlier in this chapter. Not being taught how to note-take was the most consistent comment from all students; yet, at the same time, students acknowledged they had been required to note-take:

> Literal - "In the past I have been asked to note-take when I didn't really know how. And didn't get a good mark....Every time I plagiarised it was two marks off. A lot of people plagiarised and no one got a good mark."
>
> Procedural "In the past teachers have never had lessons on how to take notes but we always had to."
>
> Metacognitive - "I have a teacher who can teach it [note-taking] really well. And doesn't say don't plagiarise and leave it at that."
>
> Metacognitive - "I never used to be good at note-taking because I used to focus on the whole paragraph and miss many special words I could use in my own paragraph. Also I had trouble with plagiarising. I didn't understand the difference between author's choice and necessary vocabulary. Now I really understand the process because of the way it is taught to me. Other teachers didn't take the time to make sure that all the students understand fully."

I am not casting blame without first pointing the finger at myself. I was also guiltyof assuming that students could take notes. I believed that if I, or any teacher, said, "Write down enough words to make you remember what you have read and DON'T COPY!" the directions would be followed. Why did I have this belief? Because there are those students to whom we commonly teach who can do a reasonably successful job of note-taking receiving limited instructions. On the other hand, the remaining students do not benefit from broad, non-explicit instructions. Typically, in the past, I might have thought, This group of students is not ready, they are not teachable, or they cannot read well enough. This study clarified beyond a doubt for me that all students were able to learn how to note-take.

Main Ideas Versus Supporting Details

It became strongly evident that identifying the main idea of a paragraph was much more difficult for students than identifying supporting details. This is corroborated in the literature. In a 1988 study, Englert et al. found that, despite the intensity of instruction, stating main ideas was still difficult for most Grade 6 students. Another example, including students approximately three years older than the students in my own study, is Sjostrom and Hare's study (1984) in which they taught Grade 9 and 10 students to identify main ideas in expository text. After a total of five hours of direct instruction on main idea, the treatment group averaged only just a little over 50% accuracy of main ideas.

In the preassessment, the top three main idea errors in order of occurrence were: (a) The main idea was drawn incorrectly from the first sentence (43% of the total main idea errors); (b) The main idea was too general compared to the author's intent (18% of the total main idea errors); and (c) The main idea was plagiarised (8% of the total main idea errors). The tendency of students to restate the first sentence of the paragraph as the main idea dropped from 112 counts in the preassessment to 76 counts in the postassessment. In proportion to the other errors, however, this error remained the most frequent main idea error and increased to 57% of the total main idea errors. The second most frequent error remained restating the main idea too generally. The frequency dropped from 46 counts to 23 counts and in proportion to the other errors, remained at about 18% of the total main idea errors. An example of this type of errors is the main idea in Sample 2 of Appendix L written as, "Cacti's roots." This two word heading was considered too general because it did not specify the full main idea, "Cacti have an efficient root system." Other main idea errors were stating the main

ideas as a supporting detail, including inaccurate facts, including information not found in the source article, including information that was not useful to the purpose of the article, and including a statement that did not make sense. I felt the last four errors were idiosyncratic of individual students based on a reading error such as misinterpretation rather than an inability to determine main idea. I believe these idiosyncratic errors are inherent at all levels of reading because there was little change in *misreading* errors from preassessment to postassessment.

Students' Positive and Negative Comments

I valued the instances when students were ambivalent because I felt there was a level of honesty and objectivity in coupling positive and negative comments. I believe compliant responses (telling me what they thought I wanted to hear) were minimal because of the students' familiarity with me. Also, any existing novelty factor had worn off because of the duration of the study. Finally, the students had worked hard and needed to be heard.

> Literal - "RAP has not really help me. But it might of help in spelling. Or other stuff. But I don't really like writing them. My feelings about RAP are they are alright to do."
>
> Procedural - "What I don't like about them [RAP] is that I sometimes find it hard to find the main idea if it is a long paragraph and I sometimes find the RAPs boring and I get tired of them by the time I get to the fifth paragraph. But what I do like about RAPs is that they kind of prepare you for highschool and most of them are fairly easy. Some of them are fun too so I like that about them."
>
> Procedural - "I hate RAPs because they're so long but I like them because they're educational and because they're challenging and for me to learn I need challenges."
>
> Metacognitive - "I think she should have let us write one report the way we wanted to so she could of seen how we write without RAP, PAR, writing process and then she could of shown us her way then let us use both ways. RAP and PAR take a long time to do if you are writing a 2-3 page report. There's not a lot that Mrs. Paterson could improve in her teaching. Most of it was very clear to me."

It is evident from the above comments that all levels of students had been challenged in this unit. The RAP Strategy obviously required both cognitive and temporal endurance. I believe the ambivalence in students existed because they understood the value of knowing how to take notes but at the same time recognized there was no escaping the hard work of the required reading, understanding, and paraphrasing.

T-tests of RAP Strategy Results

To supplement these qualitative data, I did limited quantitative data analysis to check if my perceptions of student gains could be verified by using t-tests to compare results from the preassessment and postassessment (An alpha level of .05 was used for all t-tests.). Scruggs and Mastropieri (1995), in examining qualitative studies in the field of learning disabilities, stated that qualitative and quantitative work is compatible. These researchers believe cross-methodological procedures elicit commonalties beneficial to understanding the observed world. In addition, Scruggs and Mastropieri suggest that qualitative methods are stronger when they are supplemented with quantitative evidence that points directly to treatment efficacy. I began the quantitative process with a comparison of readability levels between the pre and postassessment source articles to ensure that indications of gains in restating main ideas and supporting details could be attributed to actual student progress rather than the processing of simpler articles.

Comparison of assessment articles. Four source articles at a Grade 3/4 reading level were used in the assessments. Two articles about spiders were used in the preassessment and two articles about cacti were used in the postassessment. Appendix D contains one source article from the preassessment and one source article from the postassessment. Three two

sample t-tests assuming equal variances were used to determine whether there were differences in readability between the two preassessment source articles, the two postassessment sources articles, and between the preassessment and postassessment articles. The results of nine variables were combined for each article: (a) total number of sentences, (b) total number of words, (c) mean number of words per sentence, (d) total number of syllables, (e) total number of three syllable words, (f) total number of four syllable words, (g) total number of five syllable words, (h) total words in the longest sentence, and (i) total number of sentences containing subordination. The first t-test ($t = 2.12, p = .70$) determined that there was no significant difference in readability between the two preassessment source articles; thus, I was able to combine the scores from each article into one total preassessment raw score. The second t-test ($t = 2.12, p = 0.96$) determined that there was no significant difference in readability between the two postassessment source articles so the scores from each article were also combined to create a single total postassessment raw score. A final t-test ($t = 2.12, p = .90$) determined there was no significant difference in readability between the combined preassessment articles and the combined postassessment articles. As there was no significant difference in readability of the preassessment articles and the postassessment articles, students' pre and postassessment scores were comparable. Student RAP Strategy scores measured how accurately students restated the main idea and supporting details of ten paragraphs in their own words. Students received a 1 for each correct main idea or supporting detail. Students received a 0 for each incorrect main idea or supporting detail. A total

preassessment score out of 40 was calculated by combining the scores of the two preassessment source articles. Scores were calculated in the same manner for the postassessment.

Comparison of preassessment and postassessment RAP Strategy scores. Based on a one-tailed t-test ($t = 1.68$, $p = 4.09$ E-09), there were significant gains in students' ability to correctly restate main ideas and supporting details (RAP scores) from the preassessment to the postassessment. Table 1 displays the mean raw RAP scores of the pre and postassessments, the standard deviations, and the range of raw scores. The mean raw scores are shown as a main idea subscore, a supporting detail subscore, and a total score.

Results of students with LD. In addition, I extracted the assessment RAP Strategy scores of the nine students I had classified as having learning disabilities. First, I examined if there was a difference in performance from preassessment to postassessment within this group. Then I determined if there was a difference between the group of students with LD as compared to the students without LD. A t-test ($t = 2.12$, $p = 4.89$ E-05) determined that students with LD had made significant gains in the RAP section from the preassessment to the postassessment. A further t-test ($t = 2.07$, $p = 0.37$) comparing regular class gains to students with LD gains determined that there was no significant difference in gain scores between the two groups. One of the stated purposes of strategy instruction is to align the performance of students with LD with that of their like-aged peers. My results indicate that instruction in the RAP strategy was effective in promoting learning in students with LD so they kept pace with their non-LD peers rather than falling even further behind as is typical

according to Mothus (1997). Given the history of students with LD falling yearly further and further behind, my students' growth in the challenging area of note-taking was commendable.

Table 1

Mean, Standard Deviation, and Range of Raw Scores of the RAP Section of the Preassessment and Postassessment

	Preassessment				Postassessment			
	n	Mean	*SD*	Range	*n*	Mean	*SD*	Range
Main Idea	10	1.67	1.36	0-3	10	4.88	1.94	2-8
Supporting Details	30	15	35.74	2-25	30	22.92	13.82	14-29
Total Sections	40	16.67	39.36	4-27	40	27.92	22.08	17-34

Note. There were 25 participants in this study but n=24 on the RAP section, as one participant who fit my LD classification misplaced the preassessment, so neither the preassessment nor the postassessment data of that participant have been included in the score comparisons.

Comparison of main idea scores to supporting detail scores

Figure 1 shows a graph of the mean percents to illustrate the gains from the pre to postassessment for the whole class. It is interesting to note that although the gains in stating main idea were significant, the mean of the class remained just below 50% accuracy. This indicates the continued difficulty many students had with identifying and restating main ideas. It is important to note that I scored the assessments more stringently than I typically would have in class. Normally, I would allow for a broader range of main ideas and would simply tell

students that if they wanted to copy the author's words, they should use quotation marks and acknowledge from whom they were copying. Thus, the scores I report may be low because I did not accommodate the reality that interpretation, interest, and a readers' choice of what information to include shapes a students' notes. However, I was consistent from preassessment to postassessment.

Overall, the results of the data analysis of the RAP strategy indicate that: (a) Significant gains were made in all levels of students to restate main ideas and supporting details in their own words; (b) Students were beginning to modify the format of the original RAP trategy; and (c) Students valued their new understandings of note-taking alongside their new awareness of the effort input required for successfully strategy enactment.

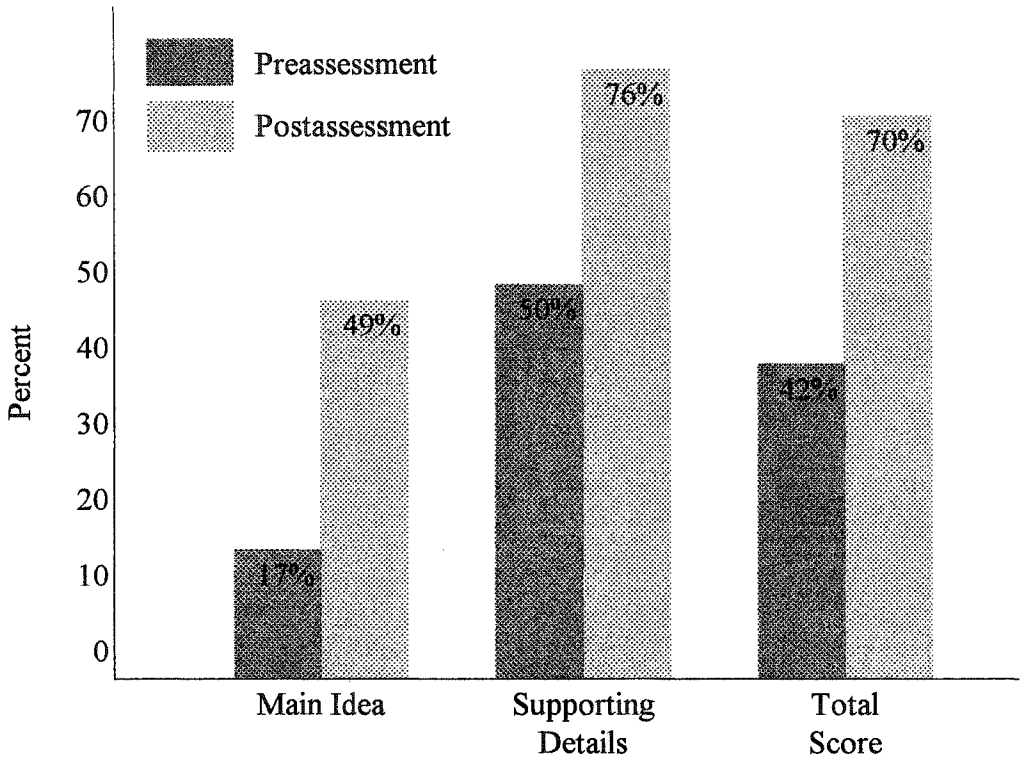
This concludes the qualitative and quantitative analysis and discussion of the results of the students' enactments of the RAP Strategy. The following section is the qualitative analysis and discussion of the results of the students' enactment of the PAR Strategy. Results from both the assessments and the in-class, independent report-writing phase are combined to give an overall view of the process and end-product of report-writing.

The PAR Strategy and Report-writing

To describe my students' experiences with report-writing, I first present the students' declarative and procedural knowledge and perceptions of report-writing using the PAR Strategy, their recollections of past experiences with report-writing, and their comparison of the RAP Strategy to the PAR Strategy. I then present and discuss the students' report-writing performance using descriptors and samples of the students' reports. Finally, I present a graph comparing the gains in mean percent from preassessment to postassessment.

Figure 1

Mean Percentage Comparison in RAP From Preassessment to Postassessment in Stating Main Ideas and Supporting Details in Source Article Paragraphs



The PAR strategy linked the activity of note-taking of the RAP strategy to report-writing. This connection is in keeping with the belief that strategy instruction should not be a stand-alone entry in the curriculum but rather integrated into ongoing instruction (Pressley, El-Dinary, Marks, Brown, & Stein, 1992). Englert et al. (1988) found that many students had difficulty categorising and integrating information from different sources. The organising focus of the PAR Strategy required students' to process their completed notes once they feel they are complete. The P of PAR had students *put* their RAPs into related categories The A of PAR had students *ask* themselves what the main ideas were of the any new or

combined categories. Those main ideas were then to be arranged to create a logical and cohesive order in their own reports. Corresponding upporting details were also rearranged accordingly. Finally, the R of PAR had students *record* their outline as a report. Students were encouraged to write their introductions and conclusions after the body of their report had been drafted for cohesion with what was already written.

Three common patterns emerged from the students' comments about the PAR Strategy: (a) Students defined some aspect of declarative or procedural knowledge of PAR and its relationship to the writing process; (b) many students referred to their past experiences in report-writing; and (c) students compared the RAP Strategy to the PAR Strategy.

Students' Declarative and Procedural Knowledge of the PAR Strategy

The following comments reveal a range of knowledge about report-writing and the writing process. Much of the knowledge expressed by the students was made explicit, at some point, during class lessons or individual instruction and appears to have been meaningful or useful to students as they wrote reports.

Students with a literal comprehension of the task instructions were either understanding some concepts for the first time or were redefining misconceptions they had. It appeared that a lack of understanding was a much larger factor in not completing work than "just not feeling like it." My learning not to assume, to ask direct questions, and to support the student so that they knew they could complete the tasks successfully helped resolve student motivation issues.

> Literal: "I can memorise them [steps of the writing process] now that I know what each one means."

> Literal: "I learned it [a report] doesn't have to be 10 pages long."

Students developing their procedural knowledge tended to be independent during class time. Often , time off-task was not related to misunderstanding, but was a choice, as students could tell me exactly what they had been doing and where they were going. These students were often working alongside peers checking for understanding, sharing interesting information they had found, and relying on each other in a variety of ways.

> Procedural: "You do not always have to stay in order of the writing process. You can go back and forth between different stages."
>
> Procedural: "I didn't really know how to write a report but after memorising them [the posters] it made the quality of my work much better because I did not plagiarise. They [the posters] also have helped me when I need help in the order of writing reports."
>
> Procedural: "I understand report-writing better because I didn't just get taught just to get a topic and write down facts about that topic. I got taught to find topic, get sources for that topic, take notes then organize notes and put them into a report. I also understand better that there is an introduction, the body, then the conclusion."

Students at the metacognitive level were students who tended to have a long memory of their history as report writers and who were refining their knowledge. Again, these students acted very independently of me, requiring me to answer direct questions, or to resolve disputes with peers about understandings. Near the end of the study, I was developing a conferencing routine in which I and students who had completed a draft of an end product would receive consultation and feedback from me based on the assessment form. Following this fine-tuning could occur.

> Metacognitive: "I have learned that report-writing has many steps. The prewriting which is RAP help you outline your report. Then you take our ideas and put them into a report. Then you edit your draft deleting, changing or moving words and adding. Then proof-reading you check punctuation errors, spelling and grammar. It doesn't matter if you do editing or proof-reading first. Then you take your draft that has been edited and proof-read and turn it into your good copy. I learned you should have at least two

> sources so you can compare them. I have also learned that a report has an intro, body, and conclusion."
>
> Metacognitive: "I was always a decent report writer, but Mrs. Paterson helped me understand about the report-writing steps. Since I've been using the RAP and writing process my reports have been getting a lot better, funner, and easier to do."

Past Experiences With Report-writing

As with students' comments about the RAP Strategy, students commenting on the PAR Strategy indicated that they were able to reflect upon their past experiences of report-writing and to make connections to their present learning. I interpreted the students' comments about these connections as indicating that the experiences they were having in this study were encouraging them to be reflective rather than mindless participants. Every comment I heard or read that indicated a progress in one student's learning became my reward and encouragement.

> Procedural: "When I was asked to write an essay I didn't know how so I would just usually plagiarise or make it up or just change the sentence around a little bit to make it sound different."
>
> Procedural: "Last year I just started talking about what ever. Now I introduce what I am writing about, write about it then conclude."
>
> Metacognitive: "In the past I wrote reports much differently than I do now. I usually took notes but just one word and after they [the notes] were somewhat hard to understand. Some of the time I didn't even take notes, just read a paragraph of a book then copied some sentences down."

Comparison of the RAP Strategy to the PAR Strategy of the Report-writing Unit

Without being prompted, students compared the RAP Strategy to the PAR Strategy. For example, in one of the comments that follows, a student recognised that the structured articles during the RAP phase of the unit had been easier to process than the sources she chose for independent report-writing. Although this student experienced some difficulty with

the reading levels of her sources, her knowledge of what she was reading for was evident. In other comments, it is evident that there was a common preference for the open-endedness of report-writing. Students were identifying how their levels of enjoyment could have an impact on their learning.

> Literal: "I'm learning about stuff that I'm researching at the same time as when I'm doing the RAP."
>
> Metacognitive: "I like the researching better than the RAPs you gave because I have to be interested in the topic so that's why enjoy it."
>
> Metacognitive: "The PARs are even better because the information is of our choice so I can learn a lot about the topic of my choice."
>
> Metacognitive: "What's difficult for me is that I don't understand the words in some of the books that I'm doing a report on. I also get kind of confused about what is the main idea. Sometimes it seems that there is more than one main idea because sometimes in the report that I'm doing has more than one paragraph and I forget because I'm so used to the RAPs you gave me before."

From the collection of comments in the above sections, it can be seen that students were becoming reflective report writers. Comments indicated that students, even those who had perceived themselves as knowing how to write reports, were still progressing by adapting and refining their knowledge. This supports the argument that all students can be exposed to the same learning strategy. How each student incorporates that learning strategy into his/her existing knowledge depends upon the needs.

In the next section, I describe the quality of the students' report-writing. I looked for evidence of students enacting the writing process, creating meaning by including main ideas and supporting details, developing an expository style through language choice, and developing the form (text structure) of a report.

Quality of the Students' Reports

Assessment Form

I assessed students' reports using either of my two versions of the rubric I had modified from the British Columbia Ministry of Education Writing Performance Standards. My choice of version depended upon whether the report was an assessment or a report completed in class. (My detailed scoring methods are found in the data analysis section of Chapter 4 and in Appendix J). For each subsection (meaning, style, form, and process) on the Report Assessment Form (Appendix H), students received: (a) a rating of *does not yet meet expectations* (Level 1), *minimally meets expectations* (Level 2), *fully meets expectations* (Level 3), or *exceeds expectations* (Level 4); (b) a qualitative descriptor within each rating; and (c) a numerical score. I include the scores of all students who attempted the work recognizing that my class was not a normal distribution. In presenting numerical data from the preassessment, data were missing from two students (n=23) because one student with LD misplaced the entire preassessment. Another student with LD did not attempt the report section of the preassessment because he told me, "I'm too tired; I can't do anymore." As all students completed and handed in the postassessment, n=25 . On the occasions where I describe student gains from one level to the next, I have included the two students with LD who did not have a preassessment report. I rated their level as *not yet meeting expectations* on all subsections of the preassessment report, based on my in-class observations of their performances at the beginning of the study. Thus, in terms of gains in performance, n=25 and provides a full view of the class.

Overall Quality of the Assessment Reports

I begin by comparing the overall ratings (Levels 1 to 4) of the reports from the preassessment to the postassessment. Following that, I subdivide the results of the reports into the subsections of the rubric (process, meaning, style, and form) to discuss patterns of performance within each subsection. The results are further subdivided into regular students and students with LD so as to address patterns within the each group of students. In describing the range of quality, I briefly outline the criteria related to each subsection, show the distribution of the students at each of the four levels of the rubric, and present students' samples from the preassessment, postassessment, and independent reports. I conclude my presentation and discussion of the report-writing results with a graph showing the mean gains in scores from preassessment to postassessment.

By totalling all the scores from the subsections, an overall report score and rating was calculated for each preassessment and postassessment report. Table 2 compares the percentage of students at each level of the rubric on the preassessment and the postassessment reports. Prior to instruction, 48% of the students were *not yet meeting expectations* and 52% were only *minimally meeting expectations* when producing a report with sufficient meaning and text structure. No students *fully met* or *exceeded expectations.* These results indicate that despite the level of familiarity and number of experiences with report-writing that the students reported, there were areas in which students could benefit from explicit instruction.

After instruction, four students, or 16% of the class were still *not yet meeting expectations* whereas 84% were *meeting* or *exceeding expectations.* All four students *not yet meeting expectations* were students with LD. Nine of 25 students remained within the same

level (5 of 9 were students with LD), 13 of 25 students progressed a level (4 of 9 were students with LD), and three of 25 students gained two levels. Given that most of the students with LD did not progress beyond the RAP phase of the instruction to independent report-writing, except for a brief period at the end of the unit, these results suggest some skills may have generalised from their extensive work with the RAP Strategy to report-writing.

Table 2

The Distribution of Ratings in Percent of Regular Students, Students with LD, and the Total Class on the Overall Quality of the Preassessment and the Postassessment Reports

	Level 1 Does Not Meet		Level 2 Minimally Meets		Level 3 Fully Meets		Level 4 Exceeds	
	pre	post	pre	post	pre	post	pre	post
% of regular students (n=16)	25	0	75	44	0	44	0	12
% of students with LD (n=9)	88	44	12	44	0	12	0	0
% of class (n=25)	48	16	52	44	0	32	0	8

The range of percent within each level also allows for gains within a level that are, however, not great enough for the student to progress to the next level. The range of percent within *not yet meeting expectations* is 0% to 49%. (Refer to my rationale for converting the four level rubric to percent in the previous chapter.) Another phenomenon was that some students may have gained in a subsection but maintained or regressed in another subsection

resulting in only very slight overall gains in percent from preassessment to postassessment. In other cases, the assessments were not the best indicators of progress. Thus, the students' results are now presented by subsections as outlined on the assessment form (Appendix H) and draw from both the pre and postassessments and the independent reports written during class time.

Results of the Writing Process Subsection of the Assessment Form

The primary foci of this unit were on the prewriting and the drafting stages. Because the assessments were controlled situations in which I prompted the students to restate main ideas and supporting details (RAP Strategy), students received credit in the prewriting phase, only if I could see evidence of reorganisation of those main ideas and supporting detail. In contrast, for the independent reports I considered both the note-taking itself (RAP Strategy) and the organisation of those notes (PAR Strategy) as prewriting because both activities were self-directed.

A draft was assessed based on whether the writing could be identified as an informative report, was meaningful, had minimal to no plagiarising, and had enough structure from which editing could proceed. When deciding on the completeness of the draft, I did not factor in report sequence because that was scored elsewhere on the assessment form. In the assessments, efforts of editing were not rated. Any improvements were absorbed by the other subsections. Proof-reading was also not rated as conventions (e.g. sentencing in the RAP Strategy) had only a minimal focus in this study. Table 3 compares the percentage of students at each level of the rubric on the writing process subsection from the preassessment to the postassessment.

Prior to instruction 72% of the students were *not yet meeting expectations* and 28% were *meeting* but not *exceeding expectations*. As the majority of students were able to compose a draft that was a recognisable report, the greatest weakness was little to no evidence of planning beyond the initial note-taking. After instruction, 44% of the students were still *not yet meeting expectations* and 56% were *meeting* or *exceeding expectations*. Thirteen of 25 students remained within the same level (8 of 9 were students with LD), nine of 25 students progressed a level (1 of 9 was a student with LD), and three of 25 students gained two levels.

Table 3

The Distribution of Ratings in Percent of Regular Students, Students with LD, and the Total Class on the Process Subsection of the Preassessment and the Postassessment

	Level 1 Does Not Meet		Level 2 Minimally Meets		Level 3 Fully Meets		Level 4 Exceeds	
	pre	post	pre	post	pre	post	pre	post
% of regular students (n=16)	56	19	38	19	6	50	0	12
% of students with LD (n=9)	100	88	0	0	0	12	0	0
% of class (n=25)	72	44	24	12	4	36	0	8

The majority of students with LD had only minimal experience with the complete report-writing process and by the end of the study had mostly only advance to note-taking on a topic of their choice. Consequently, I expected that the majority of the students with LD

would not show marked gains in additional planning beyond note-taking because of their limited experience. However, based solely on the draft criteria (not counting the prewriting stage) five of nine students with LD progressed a level. I attribute the improved drafts to the students' practice of the RAP Strategy which helped students understand exposition and its organisation of information.

One student with LD did not draft a report in the preassessment stating that he was tired and it was too much work. That same student, with a great deal of RAP experience but minimal independent report-writing experience, completed both the RAP Strategy section and the report in the postassessment. Although all subsections of his draft still did *not meet expectations*, and it was the second briefest draft with a total of 143 words, completing the entire assessment independently was a notable achievement for this particular student. During the postassessment, this student, from a casual observer's point of view, was aligned behaviourally with the rest of the class -- an accomplishment that was rarely achieved independently by this student. Prior to this, in order for this student to complete the briefest of drafts in any genre, he required coaching, scribing, and reassurance.

Planning phase of prewriting. Students used a range of different methods to reorganise their notes (PA of the PAR Strategy). For example, students cut up their notes and physically rearranged them, or they created webs, outlines, and numbering systems. One student did not organise his notes in the pre and postassessment beyond using the RAP Strategy. However, I gathered evidence of this student's ability to plan from the independent report this student was working on near the end of the study. Although this student did not fully complete his independent report, he had completed notes on one source of his choice.

What I received from this student were eight strips of lined paper cut and stapled together (Sample 1 of Appendix M). These strips were evidence of his planning. This student had begun the process of planning by cutting each group of main idea and related supporting details into pieces that he could physically manipulate. He numbered each segment of information in the order he wanted the paragraphs to occur in his final report. I would consider this student's prewriting efforts as *minimally meeting expectations* because only a single source was used and the number of main ideas and supporting details were sparse. On the positive side, this student adapted the RAP format by including six supporting details from one source paragraph rather than the standard three required in the RAP Strategy. Given the length and choice of vocabulary, this student, in my opinion, was not plagiarising. I felt this level of prewriting achievement for this student was a success story.

The planning in Sample 4 of Appendix M *fully meets expectations*. Although this student did not show planning on the planning sheet provided in the assessment, she returned to the RAP section and numbered the RAPs according to the order she wanted each main idea to appear in her report. In doing this, she combined information from the ten paragraphs of the two source articles into six body paragraphs. It was the ability to combine information from two sources, to plan and flesh out paragraphs with greater than three supporting details, and to move away from the original author's sequencing that I perceived as progressive.

Sample 2 of Appendix M received a *minimally meets expectations* for a web showing five topics which she appeared to have marked with an *x* when she had finished drafting that main idea. This web seemed like a token plan rather than a useful guide for her draft provided because it had been requested in the instructions . In this student's postassessment (Sample 5

of Appendix M), this student had advanced to a numbering system and an elaborate planning table of her own invention. On her table, she showed which notes she would include, the order in which she wanted to present the information, the topic of each paragraph and a suggested heading based on the main idea. This student *exceeded expectations.*

Sample 3 of Appendix M is an outline from the preassessment showing the topics of five paragraphs. This student used the paragraph symbol to indicate each new paragraph and knew to include an introduction. I considered this plan to *minimally meet expectations.* In the postassessment, this student, unlike the student who changed tactics from a web format to a table format, enhanced her initial outline format to an *exceeds expectations* by including more details (Sample 6 of Appendix M). This student indicated a paragraph for conclusion, indicated the order of the topics, and noted which segments of notes would apply to which main idea. This student used arrows to indicate she must have changed her mind about the order. Check marks indicate she likely kept returning to her plan to mark off which parts of the plan she had completed.

One student chose the topic of the Bermuda Triangle (Sample 3 of Appendix L). This student's independent notes retained the original structure of RAP but ranged from including two supporting details to as many as six supporting details per main idea. This indicated that she was adapting RAP from the required three supporting details per main idea to accommodate the sources she was reading and to accommodate her interest in specific main ideas. Her planning indicated she was at the stage where she was beginning to combine information from two sources but was still mostly keeping each source's information separate.

What I found most important about the progress these students were making in the

prewriting phase was the individual adaptations that reflected each student's developing personal style of researching, note-taking, and organising. As much of the work was student-initiated, student-directed, and student-to-student, with only minimal input from me, I was impressed with the variety and individuality that was beginning to emerge indicating students were taking ownership of the strategies.

The drafting stage of the writing process. To *minimally meet expectations* a draft had to be a recognisable report with only minimal evidence of copying of words. Sample 1 of Appendix N received *not yet meeting expectations* for drafting. This essay was a random retelling of facts showing personal interest and using the words *neat*, *cool*, and *gross*. I categorised this student's style of writing as informal writing rather than a report because of the reflective and personal nature. This type of writing was described by Englert and her associates (Englert & Raphael, 1988; Englert et al., 1992; Englert et al., 1991). These researchers reported that students, especially those with LD, when drafting did not recognize the important text elements of exposition. They were drawn to items with strong visual detail or of personal interest, and tended to retell everything they knew about a topic in whatever order it came to mind. In the postassessment (Sample 2 of Appendix N), this same student created a direct paraphrase of the first source article. The report contained mostly original words, but as he had plagiarised three times in his RAP, the plagiarisms transferred to his composition. This report was at the lowest end of *minimally meets expectations*. This student now organised the text althoug it was based on the sequencing of the original author and the facts were no longer random retellings. Unfortunately, in attempting to reach this level of objectivity, the student completely ruled out the subjectivity which had made his

preassessment article personal and interesting. So this student gained in the area of organisation but lost the personality shown in the preassessment. Changes in writing such as this indicate how writing, or learning, does not progress in a linear pattern. Regression in an area may occur as students experiment with a new style.

By the end of the unit, the only way a student could receive a *not yet meeting expectations* on an independent report was not to do one. Any drafts that I received were complete enough, had enough structure to be recognized as a report, and had minimal plagiarising. Sample 1 of Appendix O is a report by a student with LD that *minimally meets expectations*. Although, this report was intended as a compare/constrast report, the student separately listed his comparison topics of Elf Owls and Barn Owls and left the comparing to the end of the paper. Nevertheless, this student included many facts, used headings to demonstrate an understanding of main idea, and separated his report into clear paragraphs. However, this student had a limited introduction, and some paragraphs were not fully developed. He used necessary vocabulary he likely learned while researching this topic and also may have included some vocabulary he did not fully understand. From my experiences with this student's writing, he did not plagiarise.

Sample 3 of Appendix O is an independent report that also *minimally meets expectations* at the high end of the draft subsection. This draft is very evidently a report; however, based on my experiences with this student's writing, this student plagiarised phrases throughout the paper, although most of the report was paraphrased. I could identify which *turns of phrases* were not typical of this student such as the words, "The mustang is the symbol for American ideals."

Samples 4 of Appendix O *fully meets expectations* on the draft subsection. The draft is complete, is clearly a report, and contains many facts. This report did, however, contain some minor misunderstandings of the topic based on the word choice such as, "Cacti plants have cork going all around them that are pretty long. Cacti's roots grow mostly from the top." In addition, the introduction and conclusion were present but required further editing. Sample 3 and Sample 4 of Appendix O are two independent reports that *fully meet expectations*. (An interesting aside is that these two authors, who chose to research the Bermuda Triangle and comets, were among the few who did not choose the typical topics of animals or countries. The limited range of topics that students chose to research suggests to me that students may have benefited from mini-lessons that encouraged brainstorming and maintaining lists of topics. Both these reports do not *exceed expectations* because both contained one or two brief, undeveloped paragraphs. This was not a reflection of these two students' ability to write paragraphs, but rather of their choice not to do further research to add details to those paragraphs.

Sample 6 of Appendix N is an example of a postassessment report that *meets expectations* at the high end on the draft subsection. The genre is not only clearly a report including a sufficient introduction and conclusion, but this author has managed to blend information effectively from both articles in a way that no other student achieved. This author had a talent for taking facts from the source articles and combining them to create a new idea. For instance, two separate facts were that the saguaro cactus has folds and that animals live on the saguaro cactus. This author created the image of the animals living within the folds of the saguaro. As all drafts required editing, no drafts *exceeded expectations* at the time of the

study. Many reports were, however, moving close to *exceeding expectations* and some subsections, that will be further discussed in the following sections, earned the level of *exceeding expectations.*

Meaning Subsection of the Writing Assessment

Two criteria determined ratings in the meaning subsection: (a) inclusion of main ideas related to the topic and (b) inclusion of accurate facts and details about the topic. (The meaning section did not include organisation of the main ideas and the facts but rather just inclusion.) Table 4 compares the percentage of students at each level of the rubric on the meaning subsection from the preassessment to the postassessment.

Prior to instruction 20% of the students were *not yet meeting expectations* and 80% were already *meeting or exceeding expectations.* I perceived this data to mean that the majority of this group of students had had previous experience with reports and were well aware that a report was intended to inform the reader about specific facts.

After instruction, 12% of students were *not yet meeting expectations* and 88% of students were *meeting or exceeding expectations.* Twelve of 25 students remained within the same level (5 of 9 were students with LD). Eleven of 25 students progressed a level (4 of 9 were students with LD), one of 25 students progressed two levels, and one student, a student with LD, regressed a level. A possible explanation for the regression of the one student was a lack of familiarity with the topic of cacti (Sample 3 of Appendix N). This misunderstanding likely influenced this student's ability to include accurate and relevant main ideas and supporting details. The greatest gains were perceived in the regular students, all of whom *met or exceeded expectations*; however, gains were made by the students with LD despite their

limited experience with independent report-writing.

Table 4

The Distribution of Ratings in Percent of Regular Students, Students with LD, and the Total Class on the Meaning Subsection of the Preassessment and the Postassessment

	Level 1 Does Not Meet		Level 2 Minimally Meets		Level 3 Fully Meets		Level 4 Exceeds	
	pre	post	pre	post	pre	post	pre	post
% of regular students (n=16)	6	0	44	0	50	88	0	12
% of students with LD (n=9)	44	33	44	22	12	45	0	0
% of class (n=25)	20	12	44	8	36	72	0	8

Again, this suggests that instruction in and practice using the RAP Strategy -- primarily out of the context of report-writing -- may have had a positive impact on the students. Overall, there was a positive shift in the students' abilities to include adequate main ideas and supporting details in their compositions.

As mentioned earlier, several students' preassessment reports were journal-like entries revealing the interests of the author. Thus, the meaning subsection rating was *not yet meeting expectations*. For example, Sample 1 of Appendix N was a collection of random responses to facts the author found interesting from the original source article. Note that this student included words like *I think, it's neat, it's pretty weird,* and *it's gross.* In Sample 2 of Appendix N this same student was able to *minimally meet expectations* on the meaning subsection on

the postassessment report. In this case, this student objectively paraphrased or plagiarised the first source article paragraph by paragraph including the minimum number of relevant main ideas and facts. This sample lacks a sense of perspective which was appealing in the preassessment, but the genre is now clearly an informative report.

Sample 4 of Appendix N *fully meets expectations* on the meaning subsection. This student includes sufficient details to educate the reader about the topic of cacti. In addition, this student had a developing sense of the main ideas and combining main ideas from both source articles. For instance, the topic sentence, "Cacti plants have good protection and good at getting water" demonstrates the student's progress in relating ideas that support that the cactus is well suited to its environment.

Sample 6 of Appendix N *exceeds expectations* on the meaning subsection. This postassessment report showed originality in manipulating and combining the main ideas to generate an original main idea, "Some parts of the cactus are the stem, the spines, the flower, the roots, and the skin." This student combined supporting details from five separate paragraphs to develop her single paragraph. In addition, this student's report included many facts and details to substantiate the main ideas and to educate the reader.

Style Subsection of the Assessment Form

Style was limited to the single criterion of vocabulary choice of keywords and transition words. This criterion was based on the quantity of keywords students used to indicate their ability to speak knowledgeably about the topic. Table 5 compares the percentage of students at each level of the rubric on the style subsection from the preassessment to the postassessment. Prior to instruction, 12% of students did *not meet expectations* and 88% *met*

or *exceeded expectations*. I account for the preinstruction success in the style subsection because the reading levels of the source articles were below grade level, and the topic and vocabulary relating to spiders was familiar to most students.

Table 5

The Distribution of Ratings in Percent of Regular Students, Students with LD, and the Total Class on the Style Subsection of the Preassessment and the Postassessment

	Level 1 Does Not Meet		Level 2 Minimally Meets		Level 3 Fully Meets		Level 4 Exceeds	
	pre	post	pre	post	pre	post	pre	post
% of regular students (n=16)	0	0	31	19	69	56	0	25
% of students with LD (n=9)	33	22	22	33	45	45	0	0
% of class (n=25)	12	8	28	24	60	52	0	16

After instruction, 8% of students were *not yet meeting expectations* (Sample 3 of Appendix N) and 92% were *fully meeting* (Sample 2 and Sample 4 of Appendix N) or *exceeding expectations* (Sample 5 of Appendix N). Twelve of 25 students (4 of 9 were students with LD) remained within the same level, eight of 25 students progressed to the next level (1 of 9 was a student with LD), one of 25 students (who was a student with LD) progressed two levels, and four of 25 students (3 of 9 were students with LD) regressed a level. I did not predict a drop in vocabulary usage but suggest, as I did for the meaning subsection, that the topic of cacti and the new vocabulary *saguaro* may have been unfamiliar

enough that students limited their writing and chose not to include new vocabulary in their writing (Sample 3 of Appendix N). I suggest that results indicating difficulty with the topic and vocabulary emphasise the need for students to be given a choice of topic so that they can read and communicate their knowledge more expertly .

Sample 1 of Appendix O is the first and only independent report completed by this student with LD who was *not meeting expectations* in the style subsection at the time of the preassessment and was *fully meeting expectations* at the time of the postassessment. This student chose the topic of owls and used the related vocabulary appropriately in sentence constructions that I believe were not plagiarised.

Form Subsection of the Assessment Form

Form was the subsection with the most criteria. Four criteria determined the ratings in this section: (a) including an introductory paragraph, (b) sequencing the body paragraphs, (c) grouping main ideas and related supporting details, and (d) including a concluding paragraph. Table 6 compares the percentage of students at each level of the rubric on the form subsection from the preassessment to the postassessment.

Prior to instruction 76% of the students were *not yet meeting expectations* and 24% were only *minimally meeting expectations*. No students were *meeting expectations*. The initial lower results of this section compared to the relative preassessment success of the previous two subsections of meaning and style suggest to me that although a majority of the students could write an identifiable informative report, the students were not yet including the finer characteristics of the text structure of informative reports such as an introduction and a conclusion.

After instruction 32% of students were *not yet meeting expectations* and 68% were *meeting* but *not exceeding expectations*. Fourteen of 25 students remained within the same level (6 of 9 were students with LD), nine of 25 students progressed to the next level (3 of 9 were students with LD), and two students progressed two levels. Students made the greatest gains in this subsection by developing and sequencing the information within each body paragraph as well as within the body of the report. Students with LD also made gains in developing and sequencing their body paragraphs even though they had minimal independent report-writing practice. I believe this reflects the reinforcement of grouping main ideas and supporting details while using the RAP Strategy. Nine students, the majority of whom were students with LD, were still *minimally meeting expectations*. These students were still not including introductions and conclusions in their reports. I had anticipated that students with LD might not include introductions and conclusions because of their limited experience with the entire text structure of a report during this instructional unit.

Sample 1 in Appendix N does n*ot yet meet expectations* and illustrates the random retelling of facts without attention to paragraphing or sequencing. There is no introduction to the topic of spiders and the paper ends abruptly. Sample 2 of Appendix N *minimally meets expectations* for sequencing and body paragraph development. He *minimally meets expectations* as he has done a straight paraphrase of the original source article; however, again no introduction or conclusion is present.

The body paragraph sequencing of Sample 4 of Appendix N *fully meets expectations* and the majority of her body paragraph development *exceeds expectations* because of the effective grouping of related facts.

Table 6

The Distribution of Ratings in Percent of Regular Students, Students with LD, and the Total Class on the Form Subsection of the Preassessment and the Postassessment

	Level 1 Does Not Meet		Level 2 Minimally Meets		Level 3 Fully Meets		Level 4 Exceeds	
	pre	post	pre	post	pre	post	pre	post
% of regular students (n=16)	63	12	31	44	6	44	0	0
% of students with LD (n=9)	100	67	0	33	0	0	0	0
% of class (n=25)	76	32	20	40	4	28	0	0

This student's introduction and conclusion *minimally meet expectations*, however. The introduction is a single thesis statement, "In this report I am going to tell you some stuff I learned and researched about cacti." There is no attempt made to draw the reader in and there is no indication of the main ideas that will be discussed. The conclusion is abrupt and acknowledges the reader but neither engages the reader nor summarises the main ideas of the paper. Sample 6 of Appendix N contains an introduction and a conclusion that *meets expectations* as it engages the reader and summarises the report. This student's body paragraph development falls between *fully meeting* and *exceeding expectations.* Finally, the introduction in Sample 5 of Appendix N *exceeds expectations* by engaging the reader with rhetorical questions that include amazing facts about cacti: "Did you know that some cacti can grow bigger than a telephone pole? or "Did you know that the Saguaro Cactus can hold over

a ton of water?" This author also states a thesis and then outlines the main ideas that will be covered. The sequencing of this paper *exceeds expectations* by intentionally combining main ideas and supporting details from both source articles. The conclusion in this sample, however, only *minimally meets expectations.* Although it does summarise the paper, it is abrupt and does not have as strong an impact on the reader as did her introduction.

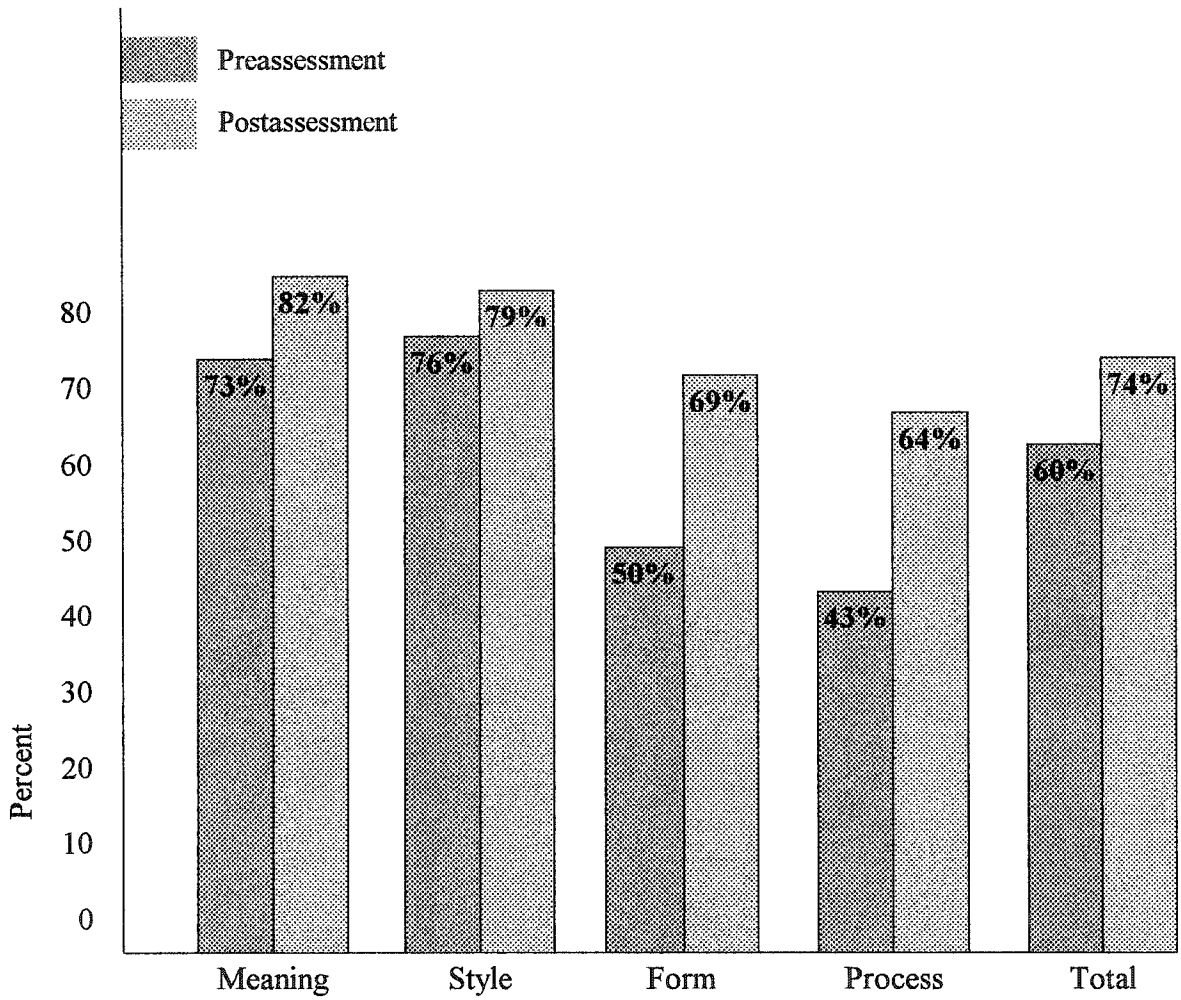
Overall Gains in Report-writing

To conclude the discussion of the students' reports, I compare the report scores across subsections from the preassessment to the postassessment. The point of this data is to highlight that gains in writing related to the initial levels of expertise. Most students coming into Grades 6 and 7 were able to draft a recognisable report because they knew to include specific facts and vocabulary to educate the reader. What most students were not yet including in their reports were introductions, conclusions, and well-supported main ideas. Figure 2 compares the mean percents of each report subsection and the mean total score from preassessment to postassessment.

I believe the overall gains are directly related to the explicit instruction in and practice of the RAP and PAR Strategies. In the style and meaning subsections, the gains were less pronounced because the majority of students already had a sufficient understanding of the informative report genre in terms of fact inclusion. If time had permitted, explicit lessons about editing word choice, understanding the difference and the power of proper nouns versus common nouns, including statistics, and practising transitions between sentences and paragraphs. As it was, students in the independent phase of report-writing were experimenting with these issues on a "need to know" basis and from incidental exposure.

Figure 2

Mean Percents In Report-writing Elements From Preassessment to Postassessment



Although gains in mean scores can be noted in all sections, the largest gains were in form (introduction, body, and conclusion) and process (prewriting and drafting). The students' reports from preassessment to postassessment showed overall gains in planning and organisation beyond mere note-taking, were longer because of more supporting details per

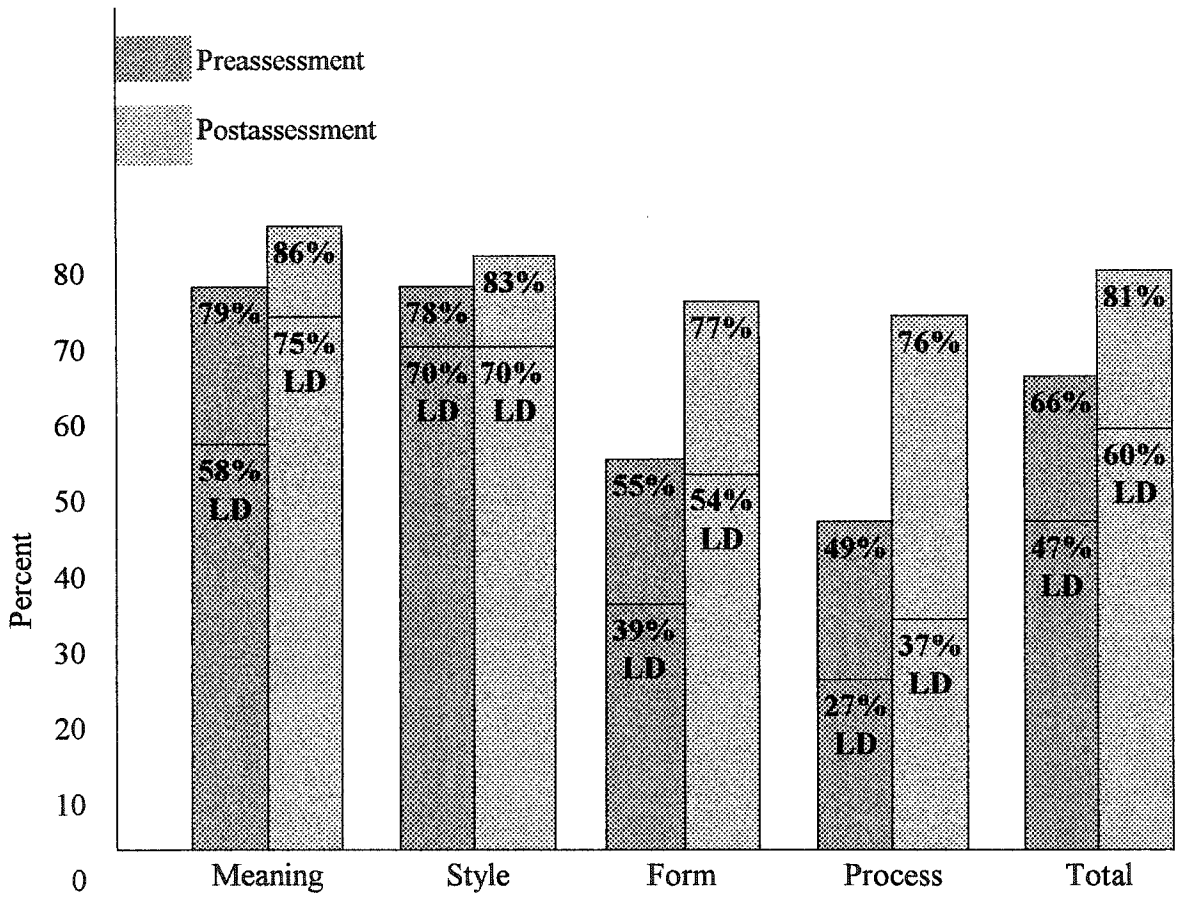
paragraph, and introductions and conclusions -- which were almost non-existent in the preassessment.

Figure 3 compares preassessment scores to postassessment scores of regular students to students with LD. (The two students with LD who did not have a preassessment report were not included in this data.) Although the means of the students with LD are lower on each section, they reflect the same patterns of gains as described for the whole class. The greatest gains were made in the meaning and form sections of the reports. In addition, the students with LD made greater gains (17%) in the meaning section than regular students (7%). In all other sections the regular students made greater gains in percent; however, when overall gains were compared to preassessment scores (regular students made gains of 15% and students with LD made gains of 13%), students with LD made proportionately greater gains. It is again important to note that skills learned by practising the RAP Strategy appeared to generalise to report-writing with limited report-writing practice. Unfortunately, because of my instructional choices, students with LD did not keep pace with the regular students when writing a report as they had done using the RAP Strategy.

As I stated, gains were made, but no student was exceeding expectations in all areas. Improvement in identifying and restating main ideas and writing effective introductions and conclusions are specific areas that suggest that the RAP Strategy could be introduced for several consecutive years at the middle school level and well into high school. The value of these results, both positive and negative, are a contribution to the current literature on exposition and the value of strategy instruction.

Figure 3

Mean Percents Comparing Students with LD to Regular Students In Report-writing Elements From Preassessment to Postassessment



This concludes the results focussing primarily on the declarative and procedural aspects of report-writing. Collectively, the students' developing understandings of the writing process and the text structure of reports was evident in their end-products. Many students identified and reflected upon the gaps in their understanding of how to write a report and expressed the belief that these gaps were being filled through the explicit instruction of this unit. What follows in the fourth and final section of this chapter are my attempts to reveal evidence of

students' metacognitive functioning as they proceeded through the report-writing unit.

Evidence of Students' Metacognitive Functioning

With the perfect vision of hindsight, I wish I had factored in time to interview each of my students at regular intervals during the study with a cumulative interview at the end. My most rewarding learning came from the times I and a student developed a joint understanding of his/her thinking that superseded just accomplishing the task for a mark. During the study, my goal for student performance was based on Alexander, Graham, and Harris's (1998) description of strategic learners as effective information processors who are thoughtful, reflective problem-solvers who can manipulate knowledge, create procedures, and generalise past learning to new situations.

After the study, I came across Borkowski and Muthukrishna's (1992) list of ten characteristics of the strategic learner: (a) knows many learning strategies, (b) understands the importance of learning strategies, (c) selects, monitors, and reflects upon the learning strategies, (d) views learning as incremental, (e) believes effort affects performance, (f) is intrinsically motivated to complete tasks and master goals, (g) accepts failure as part of the learning experience, (h) perceives self in future time frames for goal development, (i) knows and has access to a wide variety of knowledge, and (j) is supported as a learner in and out of school. After reading this article, I had a better understanding of how both constructivist and reductionist perspectives had shaped strategy instruction. Given that my own goals are to apply more constructivist principles in my own class, I found that the ten characteristics of the strategic learner helped to direct my inquiries and to organise my results.

Based on my observations in this study, I believe that metacognition is connected to the

amount of knowledge a student has about a topic or process. In addition, how that student begins to apply or reflect upon that knowledge is developmental. Thus, the following collection of comments are intended to show a range of understandings leading to and including metacognition.

Knows Many Learning Strategies

I believe any student who makes it to the Grade 6/7 level has already learned a lot. The question is: "Is the learning of the child valued in the present school system?" Eventually, I would like to better understand the strategies that students choose to enact -- especially those strategies enacted by students perceived as failing. However, because of the context of this study, I am only focussing on the overt behaviours, comments, and end products related to the RAP and PAR Strategies. By the end of the unit, I observed few students actually including the word "strategy" in their written comments, but all students were using the acronyms RAP or PAR or describing changes in their approaches. A colleague of mine, however, who was also working with my students at the time of this study, commented on my students' vocabulary choices as she held discussions with them. She observed that the instruction my students were receiving in my class were adding to their lexicon. She heard students using the word "strategy" as they talked about learning, and she found they asked such questions as, "What are the criteria for this assignment?" This colleague's observations suggest that my students' discourse was evolving and being generalised to other subjects with other teachers.

Understands the Importance of Learning Strategies

All students at one point or another in this study recognized the value of the learning they had received in this report-writing unit; however, certain students expressed this with

more conviction and a broader view.

> Metacognitive: "As I progressed through the stages of RAP, I learned that it [note-taking] wasn't the time wasting thing I thought it was in the beginning. I realized that it was an important part of learning how to not plagiarise."
>
> Metacognitive: "I think kids should learn the skills of RAP earlier so that in higher grades note-taking is easier and it is not so hard to adjust to the RAP system. Also RAP is important because it shows paragraphs broken down into information that is easier to take in."
>
> Metacognitive: "I used to hate paragraphing, but this strategy is very useful in the writing process."

Selects Learning Strategies

Students did not have much option to select from a variety of strategies. They did, however, have the opportunity to refine their strategies, which most students were happy to do as suggested by previous comments. One student did express her dissatisfaction with my approach at focussing exclusively on the RAP and PAR Strategies. This student expressed the desire to have had her strategies evaluated before my enforcement of RAP and PAR. Unfortunately, because I wanted to score the preassessment in the same manner and at the same time as the postassessment, I did not look at the preassessments until after the study was completed. Unfortunately, as one student pointed out, this limited the knowledge I had of my students pre-existing strategies:

> Metacognitive: "I think she should have let us write one report the way we wanted to so she could of seen how we write without RAP, PAR, writing process. And then she could of shown us her way. Then let us use both ways."

In addition, I was interested in the variations of students receiving the same strategy instruction. This ruled out my attention to other methods of note-taking. However, in

subsequent years, I will be more cognisant of any pre-existing strategies students have, and find ways to accommodate a variety of approaches.

Monitors and Reflects Upon Learning Strategies

Reflecting upon the strategies was an inherent part of the students' learning logs. Students were required to do this as a means of attempting to document their thought processes that might not be apparent to an observer. I believe that evaluative comments about report-writing indicated metacognitive development. To enhance the positive and negative comments some students made suggestions as to how the report-writing unit could be improved to meet their needs as a learner.

> Procedural: "I think if Mrs. Paterson gave us more time it would be easier. I think that because some people are not that fast of writers. That's what Mrs. Paterson should do differently to make it better for me."
>
> Procedural: "Mrs. Paterson could have let us have more Internet time to find more information or started report-writing earlier so we could have more time to write the reports."
>
> Metacognitive: "I think it would be a lot easier and faster if we just change the words we need to change as we rewrite the main idea."
>
> Metacognitive: "Mrs. Paterson could have made report-writing better by giving us more class time to research, write, and plan our reports. More opportunity to write longer reports and count them as two or even three depending how long the original report is."

Views Learning as Incremental

The comments of this characteristic of the strategic learner can be applied also to the previous characteristic on monitoring the strategy. Some students noted how they were improving in the implementation of the strategy itself while other students commented on how

the strategy had an impact on their writing process. Two students compared their current performance to what they recalled about their preassessment performance.

> Literal: "I like doing this because I can see how this is helping me and when we did that on the spiders [preassessment] I can see what I did wrong and I probably could get a much better mark now."
>
> Procedural: "I like RAPs because I can see how I'm improving because of how fast I go compared to when we started and what I should write down without plagiarising."
>
> Procedural: "RAP helps me in writing a lot because that time you gave us that spider essay to RAP to see how good we were doing and I plagiarised and missed a lot of main ideas and details."
>
> Metacognitive: "It makes note-taking a lot faster because you don't have to go through the whole article and then go back through it several times."
>
> Metacognitive: "I have improved in RAP because I can look at a paragraph for a few seconds and I can usually find the supporting details fast. The main idea is a little harder to find."
>
> Metacognitive: "It seems like we have not learned anything. But this is not true. We actually have learned a lot. The thing that makes it seem like we haven't learned anything was that Mrs. Paterson teaches the areas in such small chunks that it seems like nothing is going in. By the end of the chapter or lesson we have actually learned more than we know."

Motivational Aspects of Strategy Implementation

The motivational aspects of strategy use include beliefs about the value of effort, extrinsic versus intrinsic reward, and the role of success versus failure in learning. For whatever reason or combinations of reasons, overall students persevered to complete daily RAP or PAR assignments. All students at one point or another, however, exhibited off-task behaviours. I observed students off-task and reluctant. Typically, it appeared these students did not want to work on the task and were engaging in avoidance techniques of gathering material slowly, prolonged pencil sharpening, disrupting others, or taking frequent drink and

washroom breaks. I also observed students who were on-task but reluctant. Typically, these students would appear frustrated, rub out their work in a fury until their paper ripped, sigh loudly, or respond confrontationally when I tried to help. I also observed students who were off-task and eager. These students knew what they needed to do and could communicate how they were going to do it, but they were distracted by pictures in their books, distracted by discussions between others, or wanted to visit with their friends. In contrast, self-regulated students demonstrated high on-task behaviour, engaged in conversations about their work, and moved meaningfully about the classroom engaged in activities that related to their task at hand.

What motivated students to remain on-task and even eager? What motivated students to continue to hand in assignments that they found difficult to complete? Sometimes the motivators, I am sure, were simply to avoid my "evil eye," my approaching proximity, my disconcerting questions, or fear of looming report cards. Sometimes the motivators were goals:

> Literal: I have a goal. My goal is to get 80% percent. I have had this goal for a long time. I hope to accomplish it."
>
> Literal: "My goal is to graduate from RAP and become a researcher and RAP my choice of an article."
>
> Literal: "My goals are to get good marks in RAP....In the future I wish to do better in RAP."

The above goals were stated by students in the RAP group because they wanted to advance to independent report-writing. What was interesting about the goals from these students with LD are that they are realistic goals with a clear understanding of criteria. Often in the past I have

found that students in general cannot state realistic goals because they are unclear about the criteria. Unfortunately, marks were also a strong motivator:

> Procedural: "In the past I have hated getting report cards in grade four because I was so shocked about my letter grades that it really discouraged me. I was in learning assistance I thought I couldn't get good grades any way but when I was in grade five I wasn't and I thought I should try and I did good I got the honour roll and that was my goal and I was so happy. In the present I have been getting good report cards because I'm very confident now that I feel that I can do anything if I put my mind in to it."
>
> Metacognitive: "Some kids are not very good at memorising. I for one am good at memorising. The reason I think some kids get bad marks is because of the poor memorization skills. I think people should choose what their letter grade depend on. If this happened kids would get better marks and they would not feel bad. If you got to choose what you get marked on you would not fail and you could fulfill your goals. Letter grades stop people from doing what they want to do when you get into highschool, university or college."

As I became more aware of the unnatural culture of learning in the classroom, I began to implement ways to make high effort units like report-writing more authentic. I encouraged students to choose topics they were passionate about, I encouraged collaborating and editing with others, and encouraged students to publish their reports for the classroom library. Despite this, no matter how much I tried to change the culture, the sharp fact of accountability remained. Students would receive marks and all their efforts or loves or improvements would be reduced to a pass or fail. Nevertheless, I made it a goal to change my own discourse surrounding assessment. I caught myself using grades as a reward or a threat. Now, I prefer to focus on the criteria to direct performance. At my best, I also try to look for reasons that a student is not achieving rather than automatically assuming the student is at fault.

Finally, in regards to motivation, there is the whole issue of those students who remained in RAP for the majority of the unit. As I have stated before, I would have had all

students proceed to PAR early in the unit in order to build an authentic writing community and to establish the acceptance of all levels of writers. Nevertheless, one cannot ignore what the potential future of these students would be in highschool. Mothus (1997) paints a sobering view of highschool students with LD. Unless I can guarantee students a long term learning environment based on constructivist thought, I have come to the conclusion to best serve the needs of my students in the present school systems is to expose students to tasks that require both constructivist and reductionist activities. It was at times heartbreaking to see their frustration and to know they wanted to move on to the PAR group. On the other hand, these students collectively persevered. These students, whom I had witnessed pretending not to care how well they did, came to believe that with hard work and help they could graduate to the PAR group. This was not learned helplessness. I believe it was an awareness that they had some control. They had knowledge and, therefore power.

> Literal: "It takes times to get a good mark. To get into research. It's not too hard but you got to get your work in. My goal is to get into the PAR group. You got to get good marks though. That is not that hard but it takes awhile."

Believing in effort, however, did not necessarily correlate with enjoying that effort:

> Literal: "Note taking is usually hard but half of the time it is easy but the thing I don't like about it is that you don't give us enough time for us to do 3 paragraphs."
>
> Literal: "I think they [RAP] don't help that good because you have to do so many paragraphs well not lots but then there's trying not to plagiarise the sentence. Then there's trying to separate the keywords from the others."
>
> Procedural: "This year I have learned that report-writing is much more work than you think it is."
> Procedural: "The one thing I think is hard about RAP is trying to find a main idea. It's hard if the paragraph is small."

> Metacognitive: "I learned that report-writing is uninteresting and boring but needs to be done."
>
> Metacognitive: "I don't mind doing note-taking right now but I think I have to be in the mood like if I don't feel like doing it I can't concentrate."

I did find, however, that effort levels and interpretations of effort would fluctuate from day to day. Just as some tasks, jobs, or even hobbies require more effort, students favoured certain activities, such as finding sources, which correlated with on-task behaviour.

Perceives Self in Future Time Frames For Goal Development

In previous comments it can be noted that students wanted to graduate from the RAP phase to the independent report-writing phase. This was a goal often stated by students; however, specific steps to attaining goals were not written down although students may have made internal plans. Most students referred to a future time frame, but in the context of recognizing the importance of note-taking or research for highschool.

> Literal: "In the future, I will need to know how to note-take for a job or for highschool."
>
> Literal: "If I don't get on the research group this year I don't think I will be doing RAP any more. I hope in the future I will be able to do RAP again. If I had a chance to do RAP again next year I would."
>
> Procedural: "My future will be better at doing this because I know all the errors I made when doing RAP and PAR. When I get into highschool and they might not show me RAP and PAR because they might have thought I did and I have so it's a good thing Mrs Paterson taught me this year. I'm glad she taught me in grade six so that I know it better when I'm in grade seven."
>
> Procedural: "I believe that I will remember how to RAP and PAR for the rest of my life."
>
> Procedural: "I think note-taking will help me in the future and it will be a good strategy for not plagiarising."

> Metacognitive: "This [note-taking] would definitely help me in high grades because if I know how to note-take for exams and other thing I won't get caught for plagiarism."
>
> Metacognitive: "I will always use this process even until college! It will help me so that I make sure I never plagiarise unless it is very necessary to. I don't want to get in trouble with school about plagiarising."

Knows and Has Access to a Wide Variety of Knowledge

In this study, it was not my intention to measure the broad range of knowledge that students have; however, it is worth mentioning that RAP and PAR encouraged knowledge acquisition beyond strategy knowledge. The paragraphs and articles I had chosen to assign students in the RAP phase contained a wide range of simplified historical and scientific knowledge such as famous people, animals, and inventions. In addition, students gained new knowledge as they investigated topics of their choice. Several students commented that one of the reasons that RAP was enjoyable was the titbits of information they received. Others enjoyed being able to choose topics when engaged in the independent report-writing phase.

> Procedural: "I'm learning about stuff that I'm researching at the same time as when I'm doing the RAP."
>
> Procedural: "I like the researching better than the RAPs you gave because I have to be interested in the topic so that's why enjoy it."
>
> Metacognitive: "The reasons I don't like RAP are I think RAPs are boring because you don't need to learn the stuff she gives you so if you don't have to learn it there's no point in writing it."
>
> Metacognitive: "The PARs are even better because the information is of our choice so I can learn a lot about the topic of my choice."

The tenth characteristic that Borkowski and Muthukrishna (1992) included in their list of characteristics of the strategic learner is being supported as a learner both in and out of school. Because of the limitations of this study I will not comment at all about how my

students were being supported as learners outside of school; however, in the next chapter, I describe how I attempted to support my students as we worked through the report-writing unit.

Overall, both the regular students and the students with LD made significant gains using the RAP Strategy. The duration of instruction for students with LD allowed students with LD to make gains that kept pace with the regular students rather than falling further behind -- which is characteristic of their learning. Both groups of students also showed qualitative gains in their report-writing. Collectively, the regular students went from *minimally meeting expectations* on their reports of the preassessment to *fully meeting expectations* on the postassessment. Students with LD went from went from *not meeting expectations* on the preassessment to *minimally meeting expectations* on the postassessment. As students with LD had limited report-writing exposure, the explicit instruction and practice of the RAP Strategy appears to have generalised to their report-writing.

CHAPTER FIVE

Results and Discussion

Introduction

In the previous chapter, I presented the data I collected from the students, including their records of their thoughts and understandings, samples of their work, gains in end-product scores, and performance descriptors. Based on these data, I discussed: (a) my students' cognitive and metacognitive knowledge about report text structure and the process of note-taking and report-writing, (b) qualitative differences in the students' written work, (c) quantitative gains and the range of abilities within an inclusive classroom, and (d) my refininement of the assessment forms to better meet instructional goals.

In this chapter, I rely primarily on my daybook record and field notes to present: (a) my teaching strategies, (b) my reactions to my students' learnings, their misunderstandings and their behaviours, and (c) my learning while enacting a strategy instruction model. This chapter is the most temporally distant and interpretative chapter of this thesis. Although the teaching strategies and many reflections are in keeping with the documentation in my daybook and field notes, much of my learning occured many months after the completion of the study as I continued to do related research and to apply a new perspective to the events in this study. Five broad themes emerged. I begin with a theoretical discussion of learning, individuals within the school system and my interpretation of strategy instruction. This is followed by a discussion of the instructional methods I employed under the headings: direct instruction, modelling, writing process, discourse development, questioning, scaffolding, and feedback. Third, I discuss the strategies and materials I introduced to students and adapted as necessary.

The fourth main theme focuses on my understandings of student self-regulation and metacognition. Finally, the chapter concludes with a discussion about the role of teachers in research.

Reductionism Versus Constructivism

In order to interpret the strategy instruction literature and to reflect upon my performance as a teacher, I had to come to terms with the dichotomy within the research and myself created by the competing paradigms of reductionism and constructivism. It was easiest to recognise the extremes. Some studies focussed entirely on the interventions and empirical results so the subjects were nameless, faceless, and passionless. On the other hand, these types of studies were condemned by other researchers for favouring a traditional scientific model that had little to do with the grey areas of humanity and learning. The range of these two perspectives led naturally to a dichotomy of the criticisms of the public school system and teachers. A pattern I saw was that reductionists tended to criticise individual teachers for not being able to break learning effectively into meaningful parts and teach those parts explicitly to all levels of students. Constructivists tended to criticise the school system for perpetuating a system that favours methodology and conformity over adaptation and individuality.

Nevertheless, there was research that fell between the extremes. The authors contributing to this body of literature spoke of the realities of the individuals within the present school system. These authors recognised the history, impact, weaknesses, and strengths of traditional models of education, yet remained hopeful of educational reform as new research points to the potential of constructivism. I found myself most comfortable on the reductionism- constructivism continuum being slightly off-centre and favouring

constructivism. At present as a teacher, I am most comfortable where theory and practice and idealism and reality co-exist. Harris and Graham (1993) state, "we need not make either-or decisions or create unnecessary dichotomies" (p. 34). Similarly Isaacson (1992) points out: "The real issue in effective instruction is not whether it is holistic or reductionist. The real issue is whether it is complete. . . . Holistic and atomistic are antithetical concepts, but not antithetical endeavours" (p. 175).

I realise that *complete* looks different for different students and that I must account for students who are natural reductionists and students who are natural constructivists. I need to create opportunities for both convergent and divergent thought. I need to allow students to see the whole and understand the parts. In returning to the *whole-part-whole* concept within constructivism, I began to realize that the best principles and practices of constructivism appear to sandwich the best principles and practices of reductionism. I realized, perhaps from my teacher training and my natural style of learning, that I tended and tend to overemphasise the *part.* Poplin (1988a) views learning as establishing new understandings from old understandings to the point we may "gradually lose the ability to see these experiences in the old way ever again" (p. 403). In order to better understand my students', I ask, "Tell me what you do understand." At this point, students require different levels of support, but I can often determine whether the student needs to better understand the whole or the part. In the past, I typically would have re-emphasised the part.

More important, however, than constructivism or reductionism, is caring for the individual. My greatest pleasure as a teacher comes from being able to enjoy my students and to remain hopeful that their learning and development will take a positive direction under my

care. In general, I sense that if students know I like them and want to help them, they more easily forgive me my lapses. They are more likely to communicate with me so I can be more effective -- despite the limitations of operating within a school system where reform is difficult to initiate and maintain because of politics and funding.

The Individuals Within the School System

The school system perpetuates itself with rules, expectations, and assessments that are challenging for teachers and students. I feel that teachers have a distinct advantage over students because we have chosen to re-engage in a system in which we likely were successful as students. However, students have little choice, and for some -- especially students with LD -- learning at school can be exceptionally difficult. This may be compounded by the fact that students who are having difficulty are being taught by teachers, such as myself, who have been able to learn readily within the school system and have difficulty understanding those who cannot. I think in a certain way, and I find it difficult to imagine thinking another way. So, despite my efforts to understand my students better, my planning, instructional approach, and expectations are an outgrowth of my way of thinking and seeing the world. Given my subjectivity, I need to continue to develop my ability to scaffold all my students, not just the ones who think as I do. At the same time, I recognize that I need to set up my classroom to give students the autonomy to get help from each other. I need to allow them to say, "I don't understand," and to make choices about process and presentation. On the other hand, my students are only in Grade 6 and 7 and still have a long future in the school system. I have to encourage autonomy that will be useful in the years to come. I have to encourage students to understand how they learn and what situations make learning easier or more difficult within

the present system. Ideally, however, I want the students to come to believe that, in spite of the saliency of letter grades, it is how one learns, the help one receives from others, and the learning for learning's sake that are important in the long term.

Positive Working Relationships

Developing instructional practices that encourage students to develop positive working relationships with each other and their teacher builds a supportive environment in which all students are encouraged and expected to become strategic. This is a move against the tendency of classrooms to be competitive sites where the teacher's approval is sought. Ideally, I want to have a classroom where individuality in learning is expected and progress in all its forms is valued more than the rank-ordering of students. As a teacher, I want my students to develop competence and autonomy (Pressley et al., 1992). My focus, therefore, need not be which student is better or worse than the others. My real concern is how I can enhance each student's learning.

Students With LD

Adding to the profile of students with LD created by the definition of learning disabilities and the list of characteristics of students with LD by Johnson and Lapadat (2000) cited in Chapter 2 is Bender and Smith's (1990) collection of maladaptive behaviour patterns of students with LD. In their meta-analysis of results (based on teacher ratings of students with LD and the researcher's own direct observations of students with LD), these researchers collected evidence of behaviours they believed was significant enough to affect the students' abilities to learn effectively in the classroom. The maladaptive behaviours that they identified were: distractibility, acting out, disturbing peers, and off-task activity. All of these behaviours

were more time-consuming for the teacher. In a study compiling 57 teachers' and 663 students' perceptions of strategy use, Meltzer et al. (1998) were interested in the obvious discrepancy between teacher ratings and self-assessments of students with LD. The researchers suggest that students with LD may misconstrue teacher praise, evaluate their performance based on like peers, and deny their difficulties. What I found interesting about these data was the connection between lack of awareness of self and learning. If students believe themselves to be doing well then self-regulation behaviours are unlikely to be triggered and growth may be hampered.

Coping in the system. Undoubtedly, students with LD can learn as was evident by the significant gains made in this study. It has been suggested that the behaviours described above are not the primary cause of not learning, but rather the students' reaction to their learning difficulties (Mothus, 1997; Wong, 1996). What if students actually have underlying learning difficulties because they cannot understand the instruction, the materials, or the discourse quickly enough? It becomes obvious to me that if the instruction, the materials, or the discourse is the problem, then my job as a teacher is to change it.

Strategy instruction has offered me that direction of change because of the focus on processes rather than content and the use of methods that teach declarative, procedural, and conditional knowledge explicitly. Strategy instruction can be seen as a vehicle for providing a "reality check" for students about what needs to be done and how and why it needs to be done. When clear criteria are established for performance and the end product, it is more difficult for a student to continue to believe they have "done enough." Students may begin to find it easier to pinpoint exact areas where personal improvement can occur. Wong et al.

(1997) were surprised to find that after students had engaged in strategy instruction in writing, gains in self-efficacy were not made. This suggests to me that a "reality check" occurred. Students placed their own performance against established criteria and recognised the learning and hard work they still had to do. Although Wong et al. did not state this, I believe that a finding of no gains in self-efficacy may be indicative of complementary gains in metacognitive development, such as thinking about one's thinking or becoming aware of one's weaknesses and limitations. I believe that through becoming aware of our weaknesses, we can improve them. So, when dealing with students with LD, skirting around the issue of the students' difficulties in an attempt to be kind or politically correct or suggesting their difficulties cannot be overcome anyway, may, in fact, be doing these children a disservice. Learning can be self-directed when it is clear what one has to learn. This was evident in the note-taking, organising, and report-writing behaviours demonstrated by the students in this study, the resulting gains, and some of their comments in the preceding chapter.

I spoke with students about the term *learning disabilities* and how school could feel so confusing. I did not notice that this discourse encouraged students to "slack off" because they had an excuse or a crutch. Rather, it seemed to validate some of the feelings they had about school. My interpretation was that it empowered students to say, "I find this hard. I never understood this. Nobody explained this to me." In some cases, I had students say, "I didn't realize this was the answer; it seems too simple!"

Englert et al. (1992) found, when implementing their model of strategy instruction, that the most dramatic gains in students' articulations about the writing process and text structure were made by students with LD. Wong et. al. found that acquiring knowledge is the first step,

but applying that knowledge requires a gradual ceding of responsibility to the students. If a teacher does not let go, she perpetuates students' dependence on her instead of encouraging students to internalise strategies and processes and regulate their own learning (Mariage et al., 2000). McCormick et al. (1992) observed in their study on writing that students with LD were moving in a direction characteristic of all writers, although their progress was behind that of their regular peers. I have to concur with the research literature that suggests that students with learning disabilities are moving along the same continuum as other learners rather than not progressing at all or proceeding in a different pattern. Yes, my students with learning disabilities were more literal, struggled with the abstract, had a harder time being positive, and at times felt frustrated. These students came with a history that I could not undo, but I felt positive that I could make a difference. My students with LD did get excited about researching a topic of their choice, were using appropriate words to discuss note-taking and report-writing, and were refining note-taking strategies. In this study, my students with LD did make gains in their strategy use and in their writing across all dimensions measured.

Strategy Instruction

Learning is an active process for all learners. Cognitive activities can be viewed as personal and strategic. Through experiences, a person develops strategies for absorbing new information or retrieving memories, or tackling a problem. Learning can be viewed as occurring through a set of automatic or deliberate strategies that one compiles over a lifetime (Pressley et al., 1992). Thus, strategy instruction need not be viewed as short term remediation that assumes a child is lacking strategies or assumes ineffective strategies must be removed (Sjostrom & Hare, 1984). Rather, the classroom can be viewed as the place in which

children can discover, enact, and refine strategies that help them learn, problem solve, and complete tasks. It is the child's experiences, past and present, that determine in the end what strategies and tactics will evolve. What I have come to see from this study is that introducing single strategies such as the RAP or PAR Strategy is the beginning of an evolution of instruction within a classroom which allows students to develop a repertoire of far reaching strategies that hit at the core of what students are expected to do at and beyond school (effective socialising, speaking, listening, reading, writing, researching, experimenting, and problem solving). The ultimate purpose of strategy instruction is to promote learning and metacognition (Hattie et al., 1996) so that ultimately each student develops a strategic style unique to that child's interests, abilities, and idiosyncracies.

Instructional Models

Ellis (1993a) suggests that there is no particular strategy instruction model that will meet the needs of all teachers, students, or instructional settings. He feels that it is important for the teacher to be able to choose from alternatives. Duffy (1993) believes that an instructional model itself is not as important as the flexibility, creativity, and reflectiveness of the teacher, especially when class sizes may be high and availability of resources and support may be low. To suggest that effective instruction can be captured in a model is limiting if it suggests a linear path, or a reproducible trail that other teachers can follow. Effective instruction, strategy instruction, or best practices requires education, experience, adaptation, reflection, and intuition. These factors are what teachers draw from to engage, explain, and encourage. It is our survival kit within a large, unforgiving system.

I believe teachers do not have the luxury of maintaining a single philosophy because we

must take the best of instructional methods whether it is from a discovery approach, a constructivist approach or a traditional approach. Making informed instructional decisions about methods and materials can be described as ongoing action research. Teachers explore methods, collect data, and make adjustments to promote interest and learning in their students. Being an effective teacher, as measured by student learning, is hard work. Some theorists seem to suggest that only a few teachers have the prerequisites for implementing a strategy instruction model. I tend to disagree. I believe that levels of effective instruction are on a continuum of learning that is career long. There is no right or wrong entry point. What is important is that teachers choose strategy instruction because they are passionate about it, believe it will make a difference to the learning of students, and are willing to adapt their methodology and materials until they have an instructional model that works for them. I am critical of the initial philosophy but not of the tremendous amount of the work of the KU-IRLD (The Kansas University Institute of Research of Learning Disabilities) group. This group has suggested that most teachers are not capable of teaching their *Learning Strategies Curriculum*. I believe teachers reject this type of attitude, rigidity, and lack of trust. If the KU-IRLD group encouraged adaptation of their model and supported rather than criticised teachers, their curriculum might experience much greater adoption. After all, Mariage et al. (2000) found that it was the ways that individual teachers encouraged learning that determined the instruction or effectiveness of instruction.

Instructional Practices

Upon beginning this study, I had 14 years of teaching experience and felt competent applying general managerial techniques, developing positive relationships with my students,

and creating an overall positive learning tone in my classroom. However, having little experience teaching exposition and no experience with strategy instruction. I prepared myself by gathering and reading pertinent literature, sketching out a scope and sequence outline for the note-taking/report-writing unit, and designing and gathering materials. In the end, it was not just the resources that determined the success of a lesson, but rather all of the intangibles related to teaching experience. It seems that no matter how much "up-front" work I do, with either commercial packages or personally prepared units, my effectiveness evolves from my experiences with my students' experiences. This means compiling, anticipating, and responding to the range of questions, responses, interpretations, misinterpretations, errors, and successes, and then remembering that every new student adds depth to that range. For every action I describe in this thesis, there are far more missing. Ironically, my reflections on my inadequacies and "should haves" and potential limitations of this study also represent my greatest learning and validate the need for action research that may potentially fill the void between research and practice.

Fuchs and Fuchs (1998) make the observation that establishing routines in a classroom while simultaneously adapting instruction and routines for individuals may represent competing forces. Routines can make a classroom environment orderly and efficient so that the day-to-day classroom is comfortable and predictable; yet, at the same time, those routines may limit spontaneity, creativity and flexibility. Thus, I found I needed to reflect upon and then modify routines to encompass students' overall needs for choice and individual assistance. For example, silent reading after lunch may be the routine; however, within that routine, students can choose their reading material and choose where they sit or lounge when reading.

Writing reports may be the unit of study using established routines during the writing block; however, students may choose the topic for their report and refine individual research and writing tactics and strategies. Personally, this means that I have had to confront my own role in the classroom and have had to give up some authority and control (Mariage et al., 2000). Basically, I wanted to establish a classroom culture in which students experienced structure but not directiveness (Stone, 2002). Thus, the foci of the next section of this paper describes: (a) teacher- versus student-directed learning, (b) developing discourse, (c) scaffolding, and (d) compiling/developing materials.

Direct instruction

In his meta-analysis of successful interventions with students with LD, Swanson (1999) found that combining direct instruction and strategy instruction approaches resulted in gains. Earlier, I stated that direct instruction could be viewed as composed of such elements as explicit instruction of the steps of a task or process, development of mastery at each step, gradual fading from teacher directed activities toward independent work, use of adequate, systematic practice with a range of examples, and cumulative review of newly learned concepts. Although a model of direct instruction may seem formulaic, it is a tradition within reductionism that has value because it is a systematic model of instruction and scaffolding that breaks learning into parts so that the whole can be better understood. Yet, it is general enough to encompass a broad range of instructional methods and learning strategies.

I basically adhered to the above stages of instruction during the keyword phase and the RAP Strategy phase, but not during the independent report-writing, which was student driven. During the keyword phase and the RAP Strategy instructional phase, I explicitly presented

information about keywords, non-fiction, plagiarism, note-taking, the main idea, supporting details, and the writing process. I presented this information during whole-class instruction and elicited full participation by allowing "think time" and partner communication between teacher-directed questions. My demonstrations of the RAP Strategy and my use of visual prompts were other sources of explicit information. In the past, when students did not learn a concept or complete a task to indicate understanding, I attributed this primarily to the students' developmental readiness. Now, I am more aware of the need for explicitness and realize that often students are willing to work but cannot begin because they do not understand the instructions. I presented information in a step-by-step progression, moving from identifying keywords to identifying main ideas and supporting details. The goal for graduating from the RAP group to the independent report-writing group was achieving 80% mastery. Instruction was criterion-based not time-based. Students required less and less assistance as they showed gains in the RAP phase, receiving help either when they requested it or when their behaviours indicated they needed help. Material was maintained at a constant Grade 3 level during the RAP phase, but the topics were varied. I reviewed learning during daily whole class discussions.

In this study, I found following a direct instruction model to be extremely helpful. What I value about direct instruction is that it is systematic, predictable, and familiar to students. It may not appear as exciting or dynamic or engaging as discovery learning, but direct instruction need not create passive learners, nor be boring. I believe direct instruction has its place when complemented by other methods. Direct instruction can be efficient when providing declarative, procedural, and conditional knowledge as long as simultaneous

methods are being used to include all learners. Some students appear to like and benefit, at least at times, from direct instruction: "I like it when I know what is going on, and the work is easy for me." On the other hand, I find it difficult to maintain continuous direct instruction because of the variation in students' learning. I need methods that challenge students who are at a more independent stage of learning while at the same time helping those students who need it.

Modelling and Thinking Aloud

Two methods of instruction that are highly recommended in the strategy instruction literature are teacher modelling and thinking aloud (Englert & Raphael, 1988; Swanson, 1999). The point of modelling is that students observe the effective behaviours and hear the reasoning and problem solving inner dialogues of their teacher with the purpose of internalising the behaviours to later enact themselves. I did not perfect this method because I found my students became restless listening to me. So I began to involve them by asking questions and eliciting their thoughts, or the behaviours they might enact, but then the flow of the modelling was interrupted. I think part of my difficulty with modelling was that students at the Grade 6/7 level are less interested in adult thinking than in their peers' thinking. In addition, I believe they consider adult thinking to be serious, curtailing, controlling, and lacking understanding. As I reflected on this study months after its completion, I began to formulate a way to model strategy or tactic use. It would involve videotaping students. In my experience, material like this is rare. A video collection could be compiled for a wide range of strategies. Students could even be given a project to create a videotape for students their age showing how one writes an effective report from beginning to

end. For instructional purposes, the videos could be watched as a way of establishing the "whole" and then reviewed for discussion. In addition, once students had seen effective strategy use, they could compare their own performance to the strategy use of the students in the video. An idea such as videotaping children for the purpose of teaching children is just one of many ways that a direct instruction model can be adapted to encompass both traditional methods of teaching and constructivism.

Writing process

Sexton et al. (1998) recognize the controversy within the literature suggesting that strategy instruction methods requiring explicitness and structure may not be compatible with whole language or writing process approaches. They argue, however, that strategy instruction in writing need not be enacted as decontextualized teaching of isolated and meaningless skills to a passive group of students. McCormick et al. (1992) refer to Hillocks' 1986 meta-analysis in which he states that a process approach alone was not as effective as combined explicit instruction and a process approach. Thus, an effective writing program focuses on the qualities of effective writing and strategies to generate effective writing through the use of discussion, explicit criteria, and student self evaluation. A program such as this is intended to build students' conceptualisations of what composing involves, to encourage effective revisions rather than simply changing one word for another, and to promote higher-order processes of writing. This focus that has little to do with number of words and neatness upon which so many students (especially students with LD) are focussed (MacArthur et al., 1995).

Rather than viewing strategy instruction and writing process instruction as two different models, I came to view the writing process as an all encompassing strategy containing a great

number of sub-strategies and tactics. Thus, instruction of the writing process can be viewed as strategy instruction. Within that instruction, effective practices from traditional models, writing process models, and whole language models can be integrated. An instructor may provide direct teaching of explicit knowledge, and facilitate strategy implementation within a community of writers who experiment with their writing. McCormick et al. (1992) view the teacher as a *writing coach* rather than as the assigner of topics and the red pen corrector of writing who now focuses on the cognitive activities of writing rather than the end-products alone. The writing environment created by this focus allows students to "experience" the writing process in its entirety (Englert & Raphael, 1988) while focussing on strategies within that process such as the RAP and PAR Strategies.

Student autonomy. My choice to have students work independently during part of each language block meant "letting go" as a teacher. It was freeing for the students because they knew they had the autonomy to direct their own writing. It was freeing for me to trust that students can learn without me and to trust that students can learn from their peers. On the other hand, I rationalised my instructional choices to counter potential challenges by my students, other teachers, my administrators, or parents. I was not challenged during the study, but I was prepared to state that students needed freedom to explore their own process of writing, that individual help was provided by me, that debriefing of understandings occurred regularly so students could measure their learning to that of their peers, and that practice of spelling and grammar occured during the editing and proof-reading phases. Personally, my biggest concern about methods that encourage independence in students is not a theoretical one, but rather I worry about students' choices of behaviour. In giving students independence

to work, I also gave them independence to be off task. I had to control disruptive behaviour. The irony is that the students who most desired independence and who most needed the practice were the students who had the greatest difficulty handling independence responsibly. Many of these students were students with LD. My ideal is to promote a sociocognitive-constructivist stance that encourages all students to participate in the writing culture at their own level, regardless of what that level is. In the *feedback* section further along in this chapter, I list some methods I developed subsequent to this study in order to minimise disruptions and to enhance learning.

Discourse development

An important development in my growth as a teacher was the language of the classroom that entered my consciousness. In terms of the classroom culture, I had not fully realized the implications of language and discourse and their potential to create a type of culture. I had not ever considered that the classroom culture encompassed some students and eliminated others. I had not thought of classroom language as a source of controversy. During the coursework required for my Master degree, I was introduced to the view that classrooms are communities with a culture of their own found nowhere else (Hicks, 1996a). These unique cultural communities are now being studied, from an anthropological view, to better understand how their characteristic discourses and social interactions impact learning.

Language use. Hicks (1996a) suggests that many classrooms continue to remain rigidly teacher-directed. Pappas et al. (1999) criticise this type of classroom for its management style based on the power, authority, and expertise of the teacher which yields discourses where "teachers not only do most of the talking, but they also control how much

children talk as well as the nature of their talk" (p.48). I have tried to attain a balance between teacher authority and student empowerment. In doing this I have had to reflect upon my beliefs about how children should be treated, my pedagogical beliefs, my teaching experiences, and my comfort level with change. I am interested in implementing classroom practices that improve learning. If learning can be improved through classroom discourses then I am interested in improving the nature of that classroom discourse. I am interested in practices that promote a positive learning environment that develop self-motivated, independent learners who are exposed to authentic, child-centered language experiences (Pappas et al. 1999).

In this study, I began to focus on several areas of language. The first was familiarising students with the language required to discuss topics about writing process, note-taking, and report-writing. Englert and Mariage (1991) believe that the talk in the classroom can ensure that everyone is talking the same talk. In other words, all students should have access to the same vocabulary, problem-solving dialogues, and information. In other words, all students should be allowed to participate in the classroom community at whatever level they can. Excluding students by assuming they cannot handle the language guarantees isolation from the culture and limits their learning. Gersten and Baker (2001) believe that developing a common language for all learners provides a basis for quality dialogues and "demystifies" what appears to be privileged information. It appears that learning in a social setting has a strong impact on students' language and vocabulary acquisition (Englert et al., 1992). Vocabulary development is not about memorising word lists and then struggling to use the word effectively in a sentence. Vocabulary development is purposeful and strategic (O'Connor & Michaels, 1996).

The teacher, in fact, creates authentic contexts for learning and language development. The teacher consciously groups students in different ways so they practice being social and using language to promote learning. The students are given the freedom to explore different social techniques while completing academic tasks. Specific to writing, specific criteria and language use can be associated with more effective end-products (Englert et al., 2001; Mariage, et al., 2000).

During the course of this study, I became conscious of how much I was talking and the kind of talking I was doing. I even used a timer to try and encourage myself to direct only a portion of the lesson. I established with the students that there was some information that I would provide explicitly about the topics of note-taking and report-writing. From experience, I saw three reasons that students would not readily use the information: not hearing it, not remembering it, or not understanding it. I recognized that I needed to put methods in place to counteract these three tendencies.

To enhance the process of listening, I developed the mnemonic LISTEN which outlined the behaviours that I expected students to enact during teacher-directed lessons. LISTEN stands for Lapse into silence. Identify and eliminate distractions. Sit facing the teacher. Track the teacher. Engage your brain - think! Note-take when necessary. These behaviours not only encouraged students to improve their own listening but also minimised distractions which curtailed the listening of others. I would cue the students that it was teacher-directed lesson time. We would take a few minutes to review what the LISTEN behaviours were. Throughout the lesson, if students were disrupting the lesson, we would refer back to the poster. What was positive about this was focussing on the actions and not the person. In fact, many times

no words would be exchanged at all. For if I paused in my lessons, students were quick to monitor and adjust.

Memorisation. A second reason that students did not use the knowledge or vocabulary is that they could not remember it. From the strategy instruction literature, I used the concept of displaying mnemonics or information on posters. I recognised, however, that merely displaying these posters did not guarantee understanding or appropriate application (Mariage et al., 2000). I will relate an anecdote that helped me develop this awareness during this study. In the spelling program, students created flashcards of words they misspelled. On the front of the flashcard was the correct spelling of the word and on the back was a tactic for remembering how to spell that word. One particular student was not completing her spelling cards. At first, I just assumed that she did not want to complete the work. When I finally spoke to her, other than just reminding her I was expecting the flashcards, the spelling strategy poster came up in our conversation. To my surprise, her whole demeanour changed. She said to me, "Oh, that's what that poster is for. I saw it, but I didn't know what it was. I couldn't understand how the other students were coming up with such good spelling strategies." I could not believe I had missed the obvious fact that some students did not understand how to apply the information of the poster, and, worse, that I was attributing the student's "failure" to her instead of me.

Providing visual cues. I finally fully realized that visuals cannot be put up for vicarious learning. If I want students to refer to a poster then I have to provide an explicit lesson on the contents of the poster and review it many times. Also, a new method was to add memorisation opportunities during class time. Here was another example of me expecting

students to memorise information at home without having provided explicit procedural instruction. We practised different types of memorisation, including the solo method of *Look. Cover. Recite. Check!* I also taught them to work in pairs and take turns reciting for the other student. In the end, I would randomly check memorisation by calling on students to recite. If they could not do this, I would say, "Check the poster!" They would do so and would then recite successfully. There was not supposed to be any humiliation in not remembering.

A final explanation for why students might not use certain vocabulary or knowledge would be that they did not understand it well enough to use it. So, during whole class discussions, questioning was a powerful method of encouraging and checking for understanding. I developed and used several techniques to improve my use of questioning as a tool for learning.

Recitation versus discussion. A typical, traditional method of questioning, often termed *recitation*, is Mehan's (cited in Hogelucht, 1994) Initiation-Response-Evaluation *(I-R-E)* pattern of interaction. This typically is a whole-class activity that begins with the teacher initiating a question, followed by a student's response, concluding with the teacher's evaluation of the student's response. A second teacher-directed discursive practice is termed a *discussion* which tends to refer to any free, less structured conversations. I believe it is important to note that the activity of questioning and the practices of recitation and discussion are neither inherently good nor bad (Dillon, 1988). "There is always a continuum about how various discourse patterns are realized because these patterns are related to various purposes of teaching and learning" (Pappas et al., 1999, p.51). However, because of the nature of the questioning required for each practice, discussion tends to be associated with a social

interaction approach; whereas, recitation tends to be associated with a transmission approach. In reality, a teacher can modify questioning techniques that ensures active participation by all when she is aware of the nature, the purpose and the outcome of questioning (Dillon, 1988; Morgan & Saxton, 1994).

Active participation. A concern with the I-R-E method is the danger of only getting participation from a few students who have the answers. To counteract this tendency, which many students appeared to be content with, was my statement, "I'll wait until all hands are in the air." If some students were immediately ready, I would encourage them to think of more answers or examples instead of one. Students came to realize that I was serious about 100% participation. I found it interesting to watch some long established behaviours begin to change. Students who were rarely required to answer a question had to participate. Students who always had an answer had to wait patiently for others, yet continue to challenge themselves with more than one answer. When students blurted out answers, I would respond with, "When an answer is given too soon, the thinking of others is stopped."

Another behaviour had to be employed when students knew they could not answer a question. We developed a code where the hand in the air signified having an answer but a hand on the head signified not having an answer. If I saw students with hands on their heads I would call upon a student who would then either say, "Could you please repeat the question," or "I need more information." In order to make these strategies work, I worked very hard not become impatient so that students would find these strategies useful rather than demoralising. If a student asked me to repeat the question because they had not heard it, I practised patience and repeated the question. What amazed me was the number of times students could not

answer the question because they had not heard it. A whole series of learning was passing my students by when I had only waited for a third of my class to have their hands up. What an irony. For years, I allowed it to be okay for students without the answers not to develop strategies to get the answers. I have to admit, when I heard my "passive" students ask, "Can you please repeat the question?" I felt proud of them. I thought to myself, this student has just taken responsibility for his/her learning. I have made a difference. Of course, in requiring the active participation of all members of the class in recitations or discussions, the time lengthened considerably, but the learning that occurred was worth it.

Group work. Another method that I used to increase active participation was to ask a question and then have partners or small groups discuss the answer. Students familiarised themselves with this routine and many relied on it to answer the questions. The purpose of the initial question was not to test who already knew the information, but rather to have some students access their knowledge to share with those that did not have an answers. The object was to have students learn information without using a lecture format or recitation model.

In addition to using questioning methods to guide whole group instruction, I used questioning techniques one-on-one with students. Wong et al. (1996) make a distinction between the *Socratic dialogues* in the Graham and Harris work that encourages logical reasoning and the *interactive dialogues* identified in their own studies. As a teacher, I naturally used Socratic dialogues before I even knew what they were termed. I believe this type of questioning is inherent in reductionism and can be extremely useful to focus a child -- especially when time constraints are an issue. Wong et al. describe the interactive dialogue as conversations between teacher and students in which the teacher does not already know the

end-result of that dialogue. This was relatively new for me, because I did control a lot of the talk within my classroom. I found the more questions I asked to promote an interactive dialogue, the more enlightened I became about my students. I learned a lot about my students' learning and misunderstandings when I was not looking for the "right" answer.

Students questions the teacher. One strategy that was effective was to have the students question me. Different students would ask different types of questions so that declarative, procedural and conditional knowledge was triggered. Some questions were fulfilling because they had come from the students' need to know. Other questions made me feel uncomfortably challenged such as, "Why do we have to do this?" It was surprising to realize that I was not on a mission to keep information from my students. I had to laugh at myself when I recall the number of times I said to students in the past, "I can't tell you that. You are supposed to figure it out for yourself." I actually still say that but from what I believe is a more informed position. Now when I say, "You need to figure it out yourself." I mean, "I don't expect you to know the answer. It is a problem, and I want you to feel okay not knowing so that you will problem solve." If students' questions reveal a need for information, I provide it. But if I believe the student is trying to take a short cut without doing the problem solving, I do not provide an answer, but I may hint at the process. In general, the method of having my students ask questions is effective because: (a) Information may be included that I had not thought to include; (b) asking questions becomes a norm for learning rather than a sign of "being stupid," and (c) encouraging the asking of questions honours the students' control of their own learning.

Videos of student discussions. During whole-group instruction, there are many different ways to handle the student question period. The ideal is to have students answer each others' questions, relying on the teacher only as a mediator. Returning to the concept of videotaping students enacting strategies, a useful video would show students effectively running their own group discussion. Students could hear the types of questions students their age group ask, see how students keep control of the floor as speakers, and see how students can effectively challenge each other's knowledge.

Do not assume. My biggest area of learning regarding classroom discourse was learning not to make assumptions. A warning that I was assuming too much was a feeling of complacency. There was always a child that had been overlooked. At first, I tried to anticipate and unravel all the explicit information that would be important to this unit by myself, when all along I had my students' previous experiences upon which to draw. My lack of experience with teaching note-taking and report-writing using a strategy instruction model highlighted my tendency to make a lot of assumptions about what my students truly understood. Although we were moving in a positive direction, my inexperience with report-writing and explicit instruction lead to erratic pacing. Sometimes, I was too brief and had to backtrack, and sometimes, in wanting to make information immediately explicit, my lessons went on far too long. Effective instruction for me became a balancing act of predicting needs, applying my day-to-day experiences the next time, and setting up structures so that individual needs for explicit instruction could be met without boring or confusing my students.

I felt as though the deeper we went into the unit, the more I was peeling away layers to reveal the understandings or misunderstandings of my students. I realized what I once

perceived as "good enough" about my instructions and teaching was not. Some students were not receiving enough building blocks to proceed adequately, and other students required more information to take their learning to a more sophisticated level. Although I pride myself on my ability to task analyse, my task analyses were not always taking all of my learners into consideration. Just as I was proudly telling myself, "I've got everything covered now!" a student's query or need for help would humble me. An example of this related to an understanding of the L in the LISTEN mnemonic representing" lapse into silence." After several weeks of having memorised and enacted this strategy, a student finally asked me, "What does lapse mean?" Sometimes I just had to shake my head at myself.

What helped put all my good intentions in perspective was Blank's (2002) view of classroom discourse. She validated that improving classroom discourse does take time. She also validated that it is worth it because it encourages student interest and involvement, and facilitates learning. Finally, in reference to my need to say something useful each day or scaffold my students and make a difference, Blank believes that the point is not to eliminate the teacher's voice, rather to repackage it. In this study, repackaging my voice meant asking more questions, reducing my well intentioned lectures based on my assumptions. Repackaging also meant changing my discourse to encourage students to become autonomous, to appreciate learning for learning's sake, and to let their interests guide their learning.

Closely related to the methods I used to encourage learning through language and discourse, was my belief about how I should help students within an inclusive classroom. My ideal is to challenge all of my students at a level they can handle without moving too slowly for some and too quickly for others. Two topics came out of the strategy instruction

literature -- scaffolding and feedback.

Scaffolding

Adaptability. Scaffolding supports learners by providing experts who can help the students work and learn more productively than they could have on their own. A theme that emerged for me was the need for flexibility. I needed to adjust my intended course when learning was not progressing as I had hoped. An assumption of effective teaching is that teachers provide support at opportune moments (Mariage et al., 2000). I became aware, when reading through my field notes, of the speed at which I made adjustments to try to improve what I perceived was not working either for the entire class or for a single student. For example, one day a classroom discussion was not going well. My frustration, the students' boredom, and the hints of mutiny made me realize, "I need to change something immediately." This was the moment at which I suggested that my students ask the questions. What emerged from that change of course were engaged students and a powerful method for assessing my students' learning. My students also seemed to think that I had a sense of what they needed as revealed in their compliments, "You know how much work we can handle" and "You don't mind helping us."

Scaffolding and student grouping. The reality of one teacher personally trying to help each student at once is not possible. Once that became clear in my mind, I was able to ask myself, "Can I find a win-win situation?" My solution was to group students. Grouping learners for instruction has been a tradition of education. I remember from my own schooling and from my teacher education that students were especially grouped in reading. My intention of grouping students in this study was for instruction, but, more importantly, I had students

working together to complete assignments and to engage in discussions. I had little experience grouping students for instruction because I either worked with the whole-class or engaged in one-on-one conferences because of individualised programs. I found that to provide certain explicit information during this study, it made sense to group students who were working on the same assignment, were at the same stage of the writing process, or required the same information. The groups, however, were not permanent and different students were grouped at different times. When students were not grouped, they were expected to work independently. In addition, all students were moving on the same continuum to the same end goal. There was not an elite group receiving different, privileged information. Some students were just receiving information at an earlier date.

In terms of grouping students, I found evidence in a meta-analysis by Gersten and Baker (2001) that interventions for students with LD favoured student collaboration situations for learning over a teacher-student situation. This validated my perceptions, at least for this age group, of the students' need to socialise and to compare ideas with their peers. My comments from my field notes suggest that the learning that does occur may not follow the path the teacher anticipated. For instance, as I circulated to see how partners were performing their RAP Strategy, I noticed many times how the student who was not recording was hovering over the student who was and was correcting errors that they were witnessing:

> "It appears that partner work can substitute for the teacher always modelling RAP which can be quite dry. Once students are getting the hang of it and understand the expectations they can collaborate quite effectively through the work. . . . I also hypothesise that ongoing editing and proof-reading occurs as partners watch each other write. I haven't made this explicit yet but believe I should."

Finally, a positive pointed out by Pressley et al. (1992) is that grouping students

promotes co-operation rather than competition. I was told by a fellow Master degree student that in India the students share their lunches. In Canada, I imagined the allergy concerns, the hygiene concerns, the "haves" unwilling to support the "have nots" and recognized the flaws in our system. Despite the daily rhetoric that students hear about needing to get along, letter grades set up the competition. If I could be rid of letter grades at the Grade 6/7 level, I would. I prefer students' performance being described based on criteria.

Issues of student behaviour. I have had and still have remnant guilt feelings about grouping students heterogeneously because of the view that some students may hold other students back. All teachers know of those students who do well at school, are always prepared, try and act socially responsibly, and try to follow the rules. We also know those students who come to school troubled, take up an inordinate amount of teacher time, and cause a good portion of the disruptions every day. There is a belief, and I believe it runs deep, that the "good" students should be rewarded further for their constant "good" behaviour, and the "bad" students should be punished for their constant "bad" behaviour. My thought is that some students are already being rewarded. They are rewarded daily because they fit into the system, they get the letter grades they are happy with, they get respect from teachers, and often they receive perks for their performance. Of course, these students still need to feel nurtured as learners and valued as people, but why more than those students that are troubled? The reality may be that we should feel guilty for leaving students behind. All students, for the common good, should be expected to work and learn together. This means that all students are valued for their expertise in an area and can become a resource for the more novice students.

Feedback

Feedback is the process of providing students with information about their performance. As a lot of strategy instruction in the research occurred with small groups of students, individualized, explicit, and immediate feedback was not an issue. However, the question has emerged in the literature about how to provide feedback in large, diverse classrooms (De La Paz, 2001; Troia & Graham, 2002). The most immediate feedback I could provide occurred during my interactions with students; however, at the time of the study I had not developed a tracking system nor methods for checking all students regularly. Basically, I circulated the room looking for signs of students requiring help or responding to requests for help. The concerns I have about this method of feedback is that I am providing feedback to students who primarily need help. I prefer providing feedback to all students. Those who can do the work can then be encouraged to bring their work to an even more sophisticated level. In addition, there are those unobtrusive students who may require help but are not targetted because they appear to be working efficiently.

Methods for providing feedback. Based on my reflections of the feedback inadequacies I perceived in this study, I developed some methods subsequent to this study that I now use in the classroom. One method is to create a *Queue List* on the blackboard. Students add their name to the list either when they need help or when they have reached an established checkpoint, such as showing a completed set of notes. A second method is the *Help Table* where either I request students to come up and work near me, or students come up on their own initiative. This combines well with the Queue List as I can continue to check on students and even "invite" them to the Help Table if I have concerns with progress or

productivity. At this point, students often negotiate terms with me in order to maintain their independent status at their desks. A third method, is the *Stopwatch*. A goal of time is set based on the natural breaks of the day. I say, "I need 20 minutes from you before lunch." When I hold the stopwatch in the air, the timer has stopped because I perceive too many students are off-task. The signal of the stopwatch, allows students either to monitor themselves or monitor each other. What I find effective about this method is that I can remain objective, continue working with students while the stopwatch is in the air, and, without a lot of intervention, can expect a change of behaviour. The fourth method is recording time directly onto a student's paper and calling the student up every five minutes. Both the student and I can then track the progress. For instance, if a student is note-taking, I can see how many notes the students is taking in five minutes. If the quantity is low, the student and I can discuss whether it is the reading level of the source, a difficulty with the process of note-taking, or a difficulty focussing. A decision is then made about what that student needs to do to progress. I have found that these methods allow me to check on all students while concentrating on those that need immediate help. In addition, these methods allow students to target and monitor their own progress and to be a part of the decision-making about what course of action they need to take. In addition, it allows for my ongoing assessment of the students. Much of this data is tracked on a class list so I can see at a glance who has reached a checkpoint, who has seen me recently, and who I have not seen.

Scores versus qualitative feedback. The most regular feedback that the students received was in handing in their keyword or RAP assignment for the day. I would mark and return them by the following day. I attached an assessment form (Appendix E) to each

returned RAP assignment indicating which main ideas or supporting details were correct or incorrect, and a checklist error analysis. Students did not receive regular marks on their report-writing. Rather, at the end of the drafting process, students handed in a rough draft report which I assessed using the assessment form in Appendix F.

I found that the students tended to consider only the final mark and were not using the descriptive feedback. This is not surprising as I provided limited explicit instruction about the assessment forms; consequently, the students focussed on what was familiar -- their total score on each assignment. Other than referring to marks or my help in the most general terms, students did not refer to specific feedback comments nor did they talk about the marksheets in the learning logs or in the student questionnaire. In other words, the assessment forms did not appear to play a large role in the learning of the students. This is not to say that the assessment forms could not have provided effective feedback. If I had provided explicit instruction on how to read and interpret the forms, they could have become an assessment tool for students. Troia and Graham (2002) suggest that checklists and simplified scoring rubrics are a means of countering the difficulty of providing a large number of students with feedback. The difficulty in designing effective feedback forms for the students was that I was still focussing on designing assessment forms that were effective for my use as a teacher. Consequently, the assessment forms were far more useful for me than they were for the students.

I realise that student feedback forms are a valuable tool for helping students understand the criteria and for giving them occasion to practice the discourse surrounding writing. McCormick et al. (1992) recognise that teachers need experience with how students articulate

and apply personal evaluations so as to better establish criteria the students can use and understand. These authors suggest that the upper elementary school years may be an especially valuable time for developing this criteria as students of this age group begin transitioning from affective response to objective response and from simple criteria to multiple criteria. In not taking the time to explicitly teach the assessment forms, I did not capitalise on potential conversations about writing that could have emerged nor did I capitalise on opportunities to have students help develop the assessment forms. Further, Gersten and Baker (2001) contend that it is important that students receive quality, explicit feedback that also comes from peers. It is important to create criteria that students can not only apply to their own writing , but to their peers' writing.

Subjectivity of feedback. *A* final issue with feedback in general, especially in writing, is the whole notion of right and wrong. Englert (1992) suggests that the reality is that there is wide range of acceptable written communication. Often writing entails personal choice. What one person perceives as an error is another person's choice of style. Some believe that there should be less emphasis on end-product and more emphasis on process. This means providing student feedback that elucidates how effectively they are enacting a strategy (Hattie et al., 1996). Thus, a strong emphasis of assessment forms should focus on the thought processes surrounding strategy enactment rather than on the correctness of responses (Pressley et al., 1992).

Finally, I believe that an important part of a teacher's decision making process is compiling and developing units of study, related materials, and assessment tools. For me this has always been a personal endeavour because I am rarely satisfied with exclusively using

someone else's unit. Part of my enjoyment as a teacher is creating my own units of study. Teaching in many ways can be likened to an art form, and I enjoy the potential for creating and recreating what I hope one day will be a masterpiece.

The RAP Strategy As a Note-taking Strategy

Was the RAP Strategy an effective note-taking strategy? Yes and no. Based on my own experiences as a researcher and the experiences of my Grade 6/7 students, I would continue to use the first two steps of the process of RAP (Read a paragraph. Ask myself what the main idea and supporting details are.) but modify the output form (Put the main idea and supporting details in my own words.) from that required by the original Paraphrasing Strategy (Schumaker et. al., 1984). The original intent of the Paraphrasing Strategy was to teach students to paraphrase. Students were expected to paraphrase in complete sentences. As I wanted the students to use the RAP Strategy for note-taking, paraphrasing in complete sentences became cumbersome. I had not made the distinction between paraphrasing and note-taking clear in my own mind until some of my students began complaining, "This form of note-taking is a lot of work. Can't I just shorten the sentences to point form?" Thus, when some students began to use point form to adapt the RAP format, I had some inner conflict. First, I wanted students to use the strategy for the value of practising finding main idea, but I knew that they would abandon the strategy as soon as I did not require it because of the workload. Second, I wanted the students to create complete sentences because I found it to be an effective exercise for understanding and using correct sentencing conventions. I had to come to terms with the fact that creating complete sentences did not match creating quick, brief, and to-the-point notes.

My final modified version of the RAP Strategy is to have students write main ideas as complete sentences but to use point form for the related supporting details. I find this version effective for several reasons. First, students are still encouraged to think about and restate an author's main ideas. Second, the longer version of main ideas as contrasted with the point form of supporting details is a strong visual cue for identifying the main ideas in their own notes. Third, distinguishing main ideas from supporting details and requiring a more formal level of presentation (sentence rather than point form) may help students realize the importance and value of main ideas. A complete sentence signifies the main idea of a topic from which headings can be generated.

The RAP Strategy As a Finding Main Idea Strategy

Was the RAP Strategy an effective strategy for identifying main idea? Yes. I have to agree that, although the students were still having difficulty restating main ideas, it was due to the difficulty with the concept of main idea not the procedures of the strategy itself. The original intent of the RAP Strategy to gain meaning from the text by breaking a passage's paragraphs into main idea and supporting details so as to better understand the organisation, content, and purpose of the text is deemed an important skill in the literacy literature. Focusing on the structure of paragraphs has been revealed by Englert et al. (1989) to be an important skill for both effective reading and writing, especially for students with LD who may not realize that there is an order to text. Vaughn et al. (2000) found that students' learning was enhanced when they generated questions while reading or working. This occurs with the RAP Strategy as students are asking themselves, "What is the main idea and what are the supporting details of this paragraph?

Automaticity of reading. Student's greatest difficulty in finding the main idea seems to occur for those ideas that are *between the lines* rather than explicitly stated in a single sentence (Blank, 2002). A reader must know how to connect the ideas within individual sentences to create that executive big idea or theme. The trick for students is to learn how the combination of sentences contributes to the author's purpose. The difficulty with that is that the logic of the author may not be apparent. Williams (1988) recognises these inherent problems with instruction of main idea. The point is how can main ideas be defined when readers may not share the author's perspective and may have a different purpose for reading the text? Knowing the main idea is automatic for the skilled reader; but, how does one teach this? I found I could define main idea as "the author's purpose for writing the paragraph" or the "author's message." What I found extremely difficult was explaining students how stating the main idea is so automatic for me that it is no longer obvious what tactics I use and in which sequence. I found that the original "tips" in the original Paraphrasing Strategy of finding main idea: (a) look to the first sentence or (b) look for repeated words focussed too much on the literal. Even though the researchers stated that one could be 60% accurate using these methods, these methods did not help students move beyond those literal prompts to observation of the subtleties of language that give meaning to a passage (Blank, 2000). I believe that students need to continually interpret written language even when the paragraphs are not well written.

Main idea instruction. A personal bonus of this study for me was to have to seriously reflect upon the instruction of main ideas. The complexity of this issue became clearest to me, after the study, when I and my two adult raters could not easily agree upon the main idea of a

paragraph. We were able to discuss and then come up with a joint understanding, but that process in itself was interesting as we had different views about what good paragraph writing entailed. Because Poplin (1988b) pointed out that "two students from very different backgrounds might legitimately see different main ideas in the same text" (p.397). I decided that, for future reference, I had to discover a way to help those students who could not even come up with a plausible main idea or were using a supporting detail as a main idea. The tactics I introduced to the students were: (a) Look at the first sentence. (b) Look for repeated key words. (c) Ask yourself, "What is this paragraph mostly about? Although these tactics worked for some students, they did not work for all. In fact, in the postassessment the mean correct main ideas was only 49%, and students were still incorrectly deriving main ideas from the first sentence of a paragraph or creating a main idea sentence that made an effective heading but was too general for the purposes of the paragraph.

Falling back to my reductionist tendencies, I wanted to be able to give students a way to come up with the"right" answer. One of my mentors suggested that a constructivist view of identifying main idea is that main idea is jointly constructed by the author and the reader. This means that different readers will identify different plausible main ideas. She suggested having students defend their main idea choices to each other which I am eager to incorporate into my instruction. I envision dynamic discussions that would require students to use their prior knowledge of paragraph construction or of content to present their case.

Controlling task difficulty. Finally, from the direct instruction literature, comes the suggestion that learning is enhanced when a teacher is controlling task difficulty (Swanson, 1999; Vaughn et al., 2000). I used Grade 3 materials to control the reading level so that the

students could focus on the task of identifying main ideas and supporting details. During the study and during the poststudy data analysis and research, I became more aware of text structure and how certain text structures were more readily processed by my students. This experience made me more aware of how I could further control the material when having students practice the RAP Strategy (Thomas et al., 1987)

Given the difficulty that I observed of students finding a main idea, I was interested in tracking whether the placement of the main idea in a paragraph and the number of possible supporting details impacted a student's ability to isolate the main idea. Using the agreed upon main ideas of the raters, I categorised the 20 paragraphs of the four assessment source articles based on whether the main idea was: (a) stated in the first sentence, (b) stated in a sentence other than the first sentence, (c) stated in a combination of sentences, or (d) not directly stated at all. Table 7 categorises the ten paragraphs of the two source articles of the preassessment by the placement of the main ideas, the number of possible supporting details, and the number of correct student responses per paragraph.

Based on correct responses, students had more success with the "Spider" source article that contained more explicitly stated main ideas and fewer possible supporting details. When the main idea was stated in the first sentence of the paragraph just over half the students correctly stated the main idea. This suggests that students are familiar with and may have had previous instruction on stating main ideas in the first sentence of a paragraph. In all cases where the main idea was unstated no more than three students correctly restated the main idea. Table 8 categorises the ten paragraphs of the postassessment by the placement of the main ideas, the number of possible supporting details, and the number of correct student

responses per paragraph. In the postassessment, students had more success restating main ideas that were stated in the first sentence or in a combination of sentences. Unstated main ideas continued to remain difficult for students to restate. Overall, at the Grade 6/7 level, it appears that students receiving the type of instruction they received in this study, have more success with shorter paragraphs containing a stated main idea somewhere in the paragraphs but preferably in the first sentence.

Using materials to control task difficulty. Now, given my new thoughts on different main idea tactics and the difficulty students were having, I would control the reading material during practice and explicit instruction (Ellis & Graves, 1989). I would introduce paragraphs based on the placement of the main idea: a) main idea stated in the first sentence, b) an opening sentence followed by a main idea in the second sentence, c) a main idea in a sentence somewhere in the paragraph, d) a main idea stated in a combination of sentences, and e) an unstated main idea. I would begin with paragraphs that contain a main idea and supporting details with no extraneous or poorly written information. Gradually, I would begin to introduce a variety of paragraphs and discuss what makes an effective or ineffective paragraph and what personal preferences we have as readers or writers. In doing this, students also could learn that professional writers do not necessarily write "perfectly" (Mothus et al., 2002). One of my students stated, "I feel the people who make the paragraphs should make them more clear. It's hard to understand what they are talking about when the paragraph doesn't make sense." This shows that some students were becoming critical readers without a lot of explicit instruction.

Issues of choice and quality control. I question how I could have built in more

choice during the RAP phase of the unit for the students with LD without feeling I was losing the quality control.

Table 7

Number of Supporting Details, Main Idea Type, and Correct Student Responses to Main Idea of the Paragraphs From the Preassessment Source Articles

Paragraph Number	Possible Supporting Details	Main Idea in First Sentence	Main Idea in Other Sentence	Main Idea in Combination of Sentences	Main Idea Unstated	Total Main Ideas Correct
"Spiders"						
1	4			√		11
2	6				√	3
3	4		√			1
4	4	√				13
5	7				√	1
Total	25	1	1	1	2	29
"Black Widow"						
1	4		√			3
2	6				√	2
3	6		√			2
4	4				√	3
5	9				√	1
Total	29	0	2	0	3	11

Note. n=24

Table 8

Number of Supporting Details, Main Idea Type, and Correct Student Responses to Main Idea of the Paragraphs From the Postassessment Source Articles

Paragraph Number	Possible Supporting Details	Main Idea in First Sentence	Main Idea in Other Sentence	Main Idea in Combination of Sentences	Main Idea Unstated	Total Main Ideas Correct
"Cacti"						
1	9			√		9
2	3	√				21
3	8				√	0
4	5				√	3
5	4			√		6
Total	29	1	0	2	2	39
"Saguaro"						
1	8	√				11
2	6			√		21
3	6			√		21
4	4			√		4
5	5	√				20
Total	29	0	2	0	3	77

Note. n= 24

Perhaps students who needed continued practice in RAP could have alternated between completing a prescribed RAP assignment and note-taking an equal number of paragraphs from a book of their choice. Thus, students would have had controlled practice using the RAP Strategy while simultaneously compiling a sufficient body of notes from which a report could

have been written. The balance between prescribed note-taking practice and authentic note-taking for a report on a topic of the students' choice may have met my goals of improving note-taking and giving the student the opportunity to write reports. My method of retaining the students with LD in the RAP phase of the unit for the greater part of the unit may not have instilled in students a confidence in their writing ability. Ideally, I believe that all students should be involved in writing programs that immerse them as authors in ways that sentence-writing or worksheet activities cannot (Thomas et al., 1987).

Was PAR an effective strategy?

Was PAR an effective strategy to encourage students to read through their notes, reorganise them, and then write a report? Yes. Researchers have found that developing writers did little advance planning, were less knowledgeable about how to organise ideas, and were less able to control and regulate the writing process (Englert et al., 1988; Englert & Thomas, 1987; Graham & Harris, 1993a; MacArthur and Graham, 1987). I encouraged students to see the connections between the RAP and PAR Strategies in terms of the writing process. The note-taking of the RAP Strategy and the organisation of the notes stage of the PAR Strategy were emphasised as necessary steps of the prewriting phase of a report. Students were experiencing that much of the workload of a report was in the prewriting phase.

Specifically, what the process of the PAR Strategy encouraged students to do was to think about the main ideas they had gathered in their note-taking and to make decisions about the sequence in which they wanted to present the main ideas. This also meant grouping main ideas that were related, or that had overlapping supporting details. Students in this age group

were concentrating on their note-taking and making conscious efforts not to plagiarise, meaning the RAP Strategy played a major role in the development of the report itself. Organisation of main ideas was already happening at the note-taking stage because students were already grouping supporting details from several source paragraphs under a single main idea in their notes when they found overlaps. They eliminated source paragraphs containing information they had already completed notes on, and they eliminated paragraphs that contained information they did not wish to include in their reports. Once students had completed their notes, they tended to maintain the order of their notes, with only slight changes. At first this concerned me until I realized that in taking notes, students were altering the original source articles because of the decisions they had made about combining or eliminating main ideas. Students were, however, on a continuum of how original their organisation and sequencing was in comparison to the original source material. Some students paraphrased the source materials and kept the information from the sources relatively discrete. Other students were beginning to reorganise their notes to match their concept of the order in which they wanted to present the information. As our definition of plagiarism focussed on the copying of series of words, there was no emphasis yet on copying an author's argument or sequence. If time had permitted, this could have been a topic during student-teacher conferences as students became ready to address plagiarism beyond copying words.

As it was, I was only developing a system of conferencing by the end of the unit. Editing and proof-reading were not expected until after a draft was complete and handed in to me. This way, I had a chance to read their work, assess their draft using the assessment form (Appendix F), and then discuss possible directions for improvement. At this point, the primary

focus of conferences was the inclusion of effective introductions and conclusions. Nevertheless, a second focus to a conference could have been a discussion about how similar or different a student's writing was compared to the original sources. At this point, because only a single draft had been completed, students could have been encouraged to reconsider their sequencing and alternatives could have been discussed.

Better understanding of text structure. Finally, by making explicit how both the RAP and PAR Strategies connected to the writing process, students were progressing both in how to write and what to write in terms of the text structure of a report. If these understandings were developed at the beginning of a school year, they could offer a base for future instruction in other genres. For example, the process of researching, note-taking, and planning for a report could then be discussed and compared to the purpose of a persuasive essay where opinion and effective propaganda techniques are valued and developed in a way they are not in a report. My vision is that a strategy from an article by Harris, Graham, and Mason (2002) such as TREE (Topic sentence. Reasons. Explain reasons. Ending.) could be the next strategy introduced. Without going into great detail, the spin-offs from this single report-writing unit could be extended to an entire year, in which I could introduce four units: report-writing, persuasive essays, short stories, and poetry. An overall structure intended for a full year would allow for generalisation across genres about the writing process, strategy use, and the unique text structures of different genres. Understanding could be developed by continually comparing and contrasting the processes required to produce each new genre.

The Link Between Strategies, Strategy Instruction, and Metacognition

Besides effective enactment of the RAP and PAR Strategies, I wanted to encourage my

students to reflect about their thinking, writing, and learning. I did not want students to mindlessly take notes and write reports. I wanted students to become passionate at some level about writing, to find some personal fulfilment within this writing unit, and to believe they could become more strategic as writers. In other words, I was attempting to stimulate both cognitive and metacognitive processes.

An effective learner has to integrate "cognitive, motivational, personal, and situational characteristics" (Borkowski & Muthukrishna, 1992, p. 483). In order for students to develop the necessary control and monitoring of strategies, Borkowski and Muthukrishna believe the goal of strategy instruction is metacognitive development rather than the superficial learning of the strategies themselves. Strategy instruction, its integration of effective reductionist and constructivist thought, and the related effective practices of instruction appear to be an effective model for improving learning, thinking about learning, and valuing learning. Ideally, I want my students to make effective choices and feel powerful even when faced with the toughest problem solving situations. In order to do this, I believe the learning students require is process and strategy based. If processes and strategies were the basis of all curricula, rather than primarily content, it could pave the way for units of study to be determined by the interest and the expertise of the teacher and the students. Unfortunately, strategies, processes, and metacognitive development still appear secondary to content in curriculum guides and text books, although there does appear to be some change towards making underlying processes of learning explicit.

Within BC Ministry of Education approved materials, strategies still appear to be viewed as a means to an end rather than the goal itself. Nevertheless, strategy instruction and

its implications for effective teaching methodology have been enlightening for me as a teacher. Typically, in the past, I have developed curriculum units by considering the topic and developing lessons that expose students to that topic. Now, I can look at the topic and ask myself, "What strategies might the students require to better learn this topic?" This type of approach requires additional work on the teacher's part because textbooks are typically set up to teach knowledge about content rather than knowledge about strategies; however, compiling and developing material continues to be an inherent part of a teacher's job. The difference is that the material is compiled based on the underlying strategy. For instance, I now file the material used in this study under note-taking/report-writing rather than social studies, science, or language arts. This type of planning and material organisation leads to the development of thematic units, or integrated studies, that cross domains as promoted by such constructivist theorists as Pappas et al. (1999).

Metacognition

I gained insights into students' metacognition based on their comments and behaviours while completing their RAP assignments or independent reports. The students' overt behaviours, though not necessarily understood, were the clues to how they were feeling, what they had learned, and what they felt was important. I had students with learning disabilities persevere and remain self-regulated to complete three paragraphs, while other students, who could have quickly completed the assignment, dragged the assignment out.

When I took the time to investigate why a student was off-task, there invariably was a reason. Practising my understanding of "never assume," allowed me to better understand the choices the students were making and to offer appropriate help. At this point, individual

conferences allowed the student to explain why they were not completing the task and provided an opportunity for a "counselling" session, a pep talk, or individualised instruction. The least effective method of encouraging students to work, of which I am not proud, was to prompt the child, "Get back to work!" rather than first asking, "Tell me what's going on." I found several factors that I believe to be directly correlated to self-regulated behaviour in this study: interest, being able to work with others, knowing what to do, and having a goal to attain.

Interest. Student interest was much less of an issue in the independent report-writing phase than it was in the RAP phase as students were able to choose their own topics, were interested in learning about that topic, and appeared motivated to display their learning in a report. During note-taking or report-drafting, some students also were comparing their progress to each other which was a built-in motivator. Interest in the RAP group depended upon students' interest in the material provided, and this level of interest varied. Some students found the range of articles interesting and others questioned why they had to read topics that did not interest them. Given that my primary purpose in assigning specific articles was to control the difficulty of the task, lack of interest was a stumbling block. In hindsight, I realized that tweaking interest could have occurred by giving students a choice of practice articles. The gains in student motivation would have been worth the extra effort on my part.

Partner work and self-regulation. Another method of encouraging on-task behaviour was by promoting partner work. Vaughn et al. (2000) found that students persist longer on a task when working with peers. I have found that off-task behaviour ocurs because students do not know how to proceed or are finding the task too difficult or frustrating. Because

instruction in this unit was explicit and all students knew how to proceed, I believe off-task behaviour occurred because the work required a lot of thinking. I perceived that the students needed to take breaks from the hard work they were doing. However, in pairing students, the students acted as on-task motivators for each other, and the cognitive work load was lightened. I observed that students who had a track record of off-task behaviour worked more efficiently when working with others.

Goal setting and self-regulation. A final observation was that all students had goals. For some, these goals were never stated. For others, the goals were extrinsically expressed such as, "I want to get 80% on this next RAP." Still others had goals that were intrinsically motivated such as, "I want to be a good researcher so I can write a really interesting report." Contrary to my hopes, most of my students voiced that they wanted to get good marks. This occurred despite the conditional knowledge they were developing about how useful identifying main ideas and conducting research can be. I realize that by establishing the 80% criteria for graduating from RAP, I reinforced the very motivator that I did not want. In future to promote goals not related to a mark, I would have to modify the RAP assessment form (Appendix E). The form already has a strong base of descriptors of errors from which to make this adjustment possible.

I now understand that many students are performing academic tasks in school without really knowing why. What the students do know is that when they enact certain behaviours, their marks are better or they stay out of trouble. As a teacher and parent, I want neither marks nor threat of punishment to be motivators to learn. Logically, this requires development of conditional knowledge, such as the personal value of learning. I found it really important to

think ahead about the conditional knowledge because otherwise, I tended to fall back on having to say, "Because you will need it for high school," which students repeated quite a bit in this unit. I think it is very important to develop conditional knowledge that students care about and can apply to their lives beyond school. Activities that have students explain to each other how the learning can help them in their own lives is a component of strategy instruction.

Learning

Raphael, Englert, and Kirschner (1989) recognize that the term *metacognition* has been criticised in the literature as being overused. They suggest that the concept of metacognition is popular because it provides an explanation of how humans control their cognitive activities. Given that much of human thinking is split second and automatic, analyzing my cognitive activities has been an important part of being able to understand how learning might or might not occur in others. Second, I believe that to promote metacognition validates what many teachers do automatically -- that is, to take existing understandings and to "transform this everyday knowledge into scientific (metacognitive) knowledge by making that knowledge and experience the objects of study" (Englert, 1992, p. 162). Understanding the nature of knowledge and its uses means it more likely will be generalised to new situations.
Finally, if teachers do not stimulate metacognitive development, they retain control of the learning. Students remain passive, unable to problem solve, and dependent upon the teacher for approval, discipline, and assessment (Englert et al., 1988).

Restating main ideas and supporting details from passages and then clustering these into a logical, cohesive order required the student to make decisions (Englert et al., 1988) about what was important, what was interesting, and ultimately what should be included in

their reports. My goal was to have the decision-making of report-writing remain in the student's control with options to make changes based on suggestion from others. During the report-writing phase of the unit, I began to shift my focus from the written products to the process of writing a report. I believe that I was undergoing a transformation in my praxis from an approach that was primarily reductionist to one that was more oriented toward processes and cognition. When students handed in their reports for assessment, I was reading their entire report for the first time. Sometimes this entailed an internal dialogue for me about reaffirming that I was doing the right thing when I saw obvious errors that could be corrected. I resisted the urge to put marks on their writing but occasionally would star a section indicating I wanted to discuss that part of the report. It was a challenge for me to be able to reduce their written products to, "Here is one thing that is very effective in your report and here is one thing you can work on for next time." Ultimately, I had to resist the desire for perfection in the end product and convince myself that the range of writing and metacognition look different for different age groups because both are developmental.

Language. Singer and Bashir (1999) believe that metacognition is mediated by language. Englert et al. (1992) suggest that a teacher's methods for developing student's talk, a teacher's modelling of talk and thought, and a teacher's monitoring of the nature of talk in her classroom are deliberate. Specific to this study, students were required to share knowledge and to describe and reflect upon their understandings of the writing process, the report-writing process, and themselves as writers. Having students working in pairs and collaborating during class discussions were effective ways for me to monitor how the students were doing in a relatively brief time. Teacher-student dialogues through conferences are ideal

but were not fully developed in this unit, as I struggled with pacing. What I did find extremely effective were learning logs in which students were asked to reflect upon their thinking and learning. Use of journals is corroborated in the literature as a useful strategy -- especially when used frequently -- to encourage active student engagement with concepts and their own thinking (Morocco, Hindlin, Mata-Aguilar, & Clark-Chiarelli, 2001). Learning logs allowed me to collect some thoughts from all my students that became gauges for subsequent instruction. Very often after reading the learning logs, I would have to problem solve issues that I detected in the journals and make adjustments to my instruction.

Development. Wong et al. (1996) believe that metacognition is slow and late even in normally achieving students. In the learning disability literature it was stated over and over that students with LD do not have metacognitive knowledge about writing and the writing process. At first, I interpreted these statements as implying that students with LD and young students are not capable of metacognitive thought. I challenge this because, as a parent, I believe I witness metacognition, or a consciousness of thinking, when a five year old child says, "That's too hard to remember!" or "I had a really bad dream that scared me!" As a teacher, I do not agree with a model that suggests metacognition is not present. Metacognition is developmental and like learning evolves over a lifetime. For those students who find learning at school difficult, there are other factors operating that make it appear they are not metacognitive. Poplin (1988a), from a constructivist's point of view, suggests five alternative reasons why a student may not be learning intended curricula and why the difficulties of student with LD may be exacerbated: (a) a student's developmental unreadiness, (b) teaching techniques that encourage student passivity, (c) a student's insufficient

experiences, (d) a student's insufficient interest, and (e) mismatch of a student's previous experience with intended content.

A large factor may be that the thinking of a student is misunderstood because we can only tap into thinking at the language level, and we as teachers tend to predetermine what we want students to think about. We are relying on a child to be able to understand what we mean when we say, "Tell me what you were thinking," and to be able to communicate that information well. I hypothesise that awareness of cognition is there; it just may not be the awareness that we are interested in hearing about. For instance, a student may not be able to recall anything about the parts of a report. Is the following a metacognitive statement: "I can't remember anything about report-writing and my strategy is to wait for someone to tell me? "As a teacher this is not the number one answer I want to hear; however, this statement reveals that the student may be thinking about his/her thinking. I believe that the real issue within the school system, is not whether students are metacognitive or not, but rather whether we are triggering potential metacognition effectively and accepting students' perspectives. Many times, after I had worked with a student, he/she have told me, "I knew that already. I just thought that

answer was too simple."

Another reason that students might avoid sharing metacognitive thoughts is that it may be uncomfortable for them. Ideas can be personal and private. Students may not want to subject their thinking to public exposure, judgement, criticism, or debate. In addition, it may be a strong metacognitive awareness of one's helplessness within the confines of the school system that precipitates the "maladaptive" behaviours that are currently reported about

ineffective students. As stated earlier, Wong et al. (1997) discovered that metacognitive development did not increase self-efficacy. They found that awareness of being an effective writer did not correlate with believing that one could be an effective writer. Also, it has been reported (Meltzer et al., 1998) that students with LD overrate their performance against that of their teachers. Asking a student who is having difficulty at school to be metacognitive may be asking that student to reflect upon their worst nightmare or their most embarrassing moment. Once students realize that certain genres of writing, such as report-writing, are tedious and difficult to write, the issue becomes getting the students to continue on knowing they have a lot of hard work ahead of them. The students experiencing failure at school may spend most of their energy lightening the load, not making it exponentially greater by having to continually reflect on how "wrong" they are and how badly they are failing.

Finally, Wong et al. (1996) found that students developed different awarenesses even though instructions and classroom practices had been uniform. This supports the concept that learners construct personally relevant understandings from situations and that incidental interactions with others are valid because they can take learning in unpredicted directions.

Developing and reflecting upon these issues of metacognition have helped affirm that, although I can direct what occurs in my class, I have no absolute control over the situation. Thus, I should feel comfortable and take pride in allowing for errors, ineffective choices, and freedoms in the classroom, even though others may construe these practices as too chaotic or unpredictable. My personal goal is to better understand what my students are thinking and why they are making the choices they are making so that I can make a difference to their learning.

The Role of Teachers in Research

One of my purposes in this study was to address the notable absence of the teacher's voice in the strategy instruction literature. Much of the strategy instruction literature I read was written by researchers who were not public school teachers. In the worst case, teachers were perceived as a major obstacle to successful strategy instruction. Many articles portrayed the teacher as a faceless, sometimes nameless, and voiceless entity, deserving little if any comment. The most favourable opinion at least suggested the need to make teachers partners in the research process (Wong et al., 1996). When reading the research literature, I found it difficult to make connections with the teachers who had been involved in the research. I wanted to be able to align my experiences and reflections alongside the experiences and reflections of other teachers enacting strategy instruction. Occasionally, there were transcripts of teachers and students, but the personalities, thoughts, reflections, and motivations of the teacher participants were not revealed.

Gersten et al. (1987) criticised teachers and teachers' aides for having no practical knowledge of research or effective teaching practices. They suggested that teachers were relying on "folk wisdom" (p. 52) or, worse yet, their teaching experiences to guide their practices. These authors somehow managed to suggested that teachers are imbeciles rather than a collective group of highly effective learners. They further suggested that teachers must "overcome the traditional problems that occur whenever teachers provide feedback to each other" (p. 53). This was not expanded upon, but I began to envision a conscious conspiracy of teachers to encourage each other to teach badly. Based on my personal experiences, when teachers come together to learn or share knowledge, I am always impressed by the wealth of

creative methods and the teachers' concerns for students today. Gersten, Woodward, and Darch, (1986) were equally as scathing of teachers who used methods that allowed students to generate their own definitions which allowed discussions to "meander . . . resulting in confusion for low-performing students as to what is important" (p. 19). This set of authors concluded that "no curriculum is teacher-proof" (p. 23).

On the other hand, Poplin (1988a) suggests that it is the attempted objectivity of research and scholarly journals that distances teachers from the research. She hypothesises that experimental findings are seldom meaningful to teachers because of the unrealistic controls and the sterility of the experimental setting. Poplin recognises the need to explore and read about teachers' and researchers' thoughts and feelings. She believes the errors, misjudgements, back trackings, and meanderings are not weaknesses of research designs but, rather, the key characteristics that heighten our consciousness about the human factor of teaching and learning. Another positive voice is Borkowski (1992), who suggests that teaching is a dynamic process beginning with the conscious development of a teaching model during teacher training which is then continually updated. Models should "evolve gradually in the minds of novice teachers and become carefully fitted to their unique dispositions and histories" (Borkowski, 1992, p. 254) Instead of discrediting teaching experience, Borkowski values the wealth of knowledge that experience brings to a working model that has been "carefully crafted, reshaped, and groomed through personal success and failure experiences" (p. 254).

A colleague of mine, in obtaining her Master degree, had her thesis criticised for following the tradition in the social sciences of stating the obvious. I believe, from a

constructivist point of view, that learning is personal and that the value of the connections one has made to "state the obvious" should not be discredited. I believe that a teacher's purpose in doing classroom-based research is to reflect upon and consolidate a model of instruction that is developed over a lifetime. This may mean taking the obvious in new and creative directions. I believe the learning of a teacher should not be criticised for its simplicity. I have found that my greatest difficulties in the classroom sometimes have taken months of reflection that ended with a simple solution. An example is the "Queue List" I mentioned earlier. I wanted a procedure to allow students to get help or have their work checked, but I did not want students to waste time waiting in a line, chasing me around the classroom, or waiting at their desks with their hand in the air. I developed one very simple, obvious classroom routine to provide timely feedback to students. There is nothing "earth shattering" in my discovery, but the thinking I did surrounding this issue is what is really important to my trying to become an effective teacher. Vygotsky and Piaget both created learning theories that many parents intuitively know without reading the complicated works of these two great thinkers. That is that language development and learning requires social interactions and that learning is developmental. Thank goodness Vygotsky and Piaget stated the obvious.

Although I may criticise the research literature, I believe that a teacher's learning is enhanced by reading current research. I also am aware that my teaching responsibilities often keep me isolated in the classroom apart from the realities of other teachers and classrooms. For years now, I have collaborated extensively with a colleagues. Most of our work together occurs beyond the working day, during early mornings, summer holidays, and weekends. Recognising the need to build an authentic culture of learning and professional development

for teachers, I dream of a model in schools that encourages and allows for teachers to visit each other's classrooms during instructional time, that aligns new teachers with seasoned mentor teachers, and where planning, dialogue, and exchange of ideas with others are factored into every teacher's day. Time, resources, encouragement, and trust need to be given to teachers to keep up with current research and to develop and report on their classroom-based research.

Needless to say, any clarity of thought comes from much research, introspection, and discussion with others. Every time I read an article, I was seduced by the "significant findings." When I read reductionist literature, I worried that my students were not reaching mastery. I felt guilty that some of my open-ended approaches were detrimental to the learning of my students. When I read constructivist literature, I worried that I was not tapping into the interests of my students. I knew I was not allowing my students to construct their own understandings fully. I felt guilty when I was changing my discourse, believing it to be yet another form of control. In the end, I must learn to trust my judgements and experiences and aim for balance. I believe an eclectic approach allows for a teacher to combine the best of reductionist thought, constructivist thought, quantitative research, and qualitative research.

I believe that there are more similarities between educational research and practice than there are differences. I believe there is a quest for knowledge and best instructional methods, and that caring about our children is central. The gap between research and practice may lie in how that information is communicated to teachers and how valued teachers feel in receiving that information. Some researchers have had the power to make me cringe whereas others encouraged me to take pride in my accomplishments as a teacher. To conclude this chapter, I

briefly describe the work of Duffy (1993) who, over four years from 1988 to 1992, collaborated with teachers to incorporate strategy instruction into a literacy curriculum. His work allows me to place myself as a teacher on his continuum of strategy instruction and summarize where I am within my personal model of effective instruction.

Teachers' Active Development of an Instructional Model

Duffy (1993) believes that training teachers to rely on commercial programs or packages does not encourage the mind set, risk taking, and trust in oneself that teachers require to construct their instructional model and materials. In Duffy's program, the teachers were not urged to follow materials or use certain handouts, nor were they told to employ particular techniques. Through monthly staff development sessions, teachers were provided with research on reading, strategies, philosophies, approaches, techniques, and practices related to strategy instruction. Strategy instruction was discussed in terms of the lowest five students in each class whose achievement

was tracked.

During the program, Duffy identified points that teachers pass through that characterise their instruction. He gathered this information through direct observation of teachers and through interviews. There are eight stages: First, the teacher is confused and rejects a strategy instruction model insisting she needs to follow a basal textbook and cannot create her programmes. The teacher does not trust she has enough knowledge or ability to make the students effective readers. Next, the teacher controls the strategies believing it is cheating to tell students explicitly how to do a strategy. Third, the teacher is beginning to make strategies explicit but focuses on declarative and procedural knowledge and leaves out conditional

these supersede content instruction), focuses on the metacognitive development of students, and sees strategy use as universal instruction rather than isolated instruction. Fifth, the teacher hits "the wall." She recognises that she has moved from a basal reader despite limited materials and an increase in preparation. She recognises that strategies are useful for students, but there is guilt associated at this stage with not doing what she perceives she is supposed to be doing. At the sixth stage, the teacher is "over the hump." She recognises that strategies make sense, involve important, authentic experiences, and do not require approved materials. The teacher recognises there is no single way to enact a strategy instruction model. At the seventh stage, there are still gaps in how the end strategy instruction model will look and what strategies will be taught. At the eighth and final stage, the teacher has become a creative and inventive strategy instruction enactor.

I would characterise myself as primarily being in level four and five of Duffy's model of teacher development. In this study, I viewed processes of learning and completing tasks as more important than the topic of study or end products. I was interested in the metacognitive development of my students, but lacked experience in methods of instruction and methods of assessment. I felt that the positive changes in my approaches to instruction had an impact on my general performance, attitude, and beliefs about teaching beyond the confines of this study; although, I experienced doubts and guilt.

Duffy suggests that there is a probable stage nine but it remained undefined at the time of the publication of his article. I have read no subsequent work by Duffy, but can offer a potential stage nine. Stage nine is a teacher who has the confidence and experience to share, report, and publish her experiences beyond her normal circle of support. She is a mentor who,

while continuing to improve her own model of instruction, supports novice teachers. It is such teachers as those in stage nine who can mediate the gap between research and practice.

Conclusion

In this chapter, I discussed the results from my personal perspective as a teacher and the ways the results relate to the larger bodies of literature on strategy instruction, writing, learning disabilities, and metacognition. The chapter began with a theoretical discussion of learning, students within the present school system, and my understanding of strategy instruction. Following that, I discussed the range of instructional methods I employed to develop a personal model of strategy instruction and the materials that I used or developed to enhance the curriculum. This was followed by my interpretation of the self-regulation and metacognition that I perceived in my students. Finally, I presented my perceptions of the teacher's role in research. The following and final chapter of this thesis is my conclusion in which I consolidate my learning, discuss the limitations of this study, and place my work within the context of the larger bodies of research.

CHAPTER SIX

Conclusion

Strategy Instruction

Can strategy instruction be implemented successfully in an inclusive Grade 6/7 classroom? Absolutely, and in doing so, this approach to instruction has the potential to stimulate and enhance students' cognitive, metacognitive, and social development; teacher effectiveness; the learning tone of the classroom; and student autonomy. Why? Because strategy instruction provides students with declarative, procedural, and conditional knowledge that promotes learning and autonomy. Moreover, a single teacher with a full class load can successfully enact a strategy instruction model to benefit all students. Students benefit in different ways and to different degrees depending upon their needs. Of course, as in any teaching, the more expert the teacher, the more effective the strategy instruction model. The more support the teacher receives from special education teachers and teaching assistants, the more likely the teacher-to-student ratio can be improved for maximum scaffolding. The better funding a school receives, the more likely a range of materials can be compiled and teachers can be given the opportunity to collaborate.

At the time of this study, the educational system in British Columbia was in flux and funding cuts were deep and had an impact right down to the individual classroom. I mention this to highlight the difference a teacher can make in less than ideal circumstances and to suggest that effective teaching methods, such as those promoted in strategy instruction, can minimise the damage done by high student-to-teacher ratios, lack of support for students experiencing difficulty, and the general shortage of funds. However, in saying that, I believe

that the philosophy and structures of strategy instruction help "to make the best of a bad thing." In no way do I want to be misconstrued as suggesting strategy instruction excuses anti-educational policies that impose large, diverse and undersupported classes on British Columbia's teachers and learners. Strategy instruction can be effective in spite of large, underfunded, inclusive classes. It is my belief that strategy instruction would be even more effective in adequately funded schools and classrooms.

Contributions

Although this study and my related reflections have been a personal journey of professional development, there are a number of ways I believe my work contributes to the larger body of literature. First, a strategy instruction approach and a writing process approach can be combined for a note-taking/report-writing unit that explicitly teaches the declarative, procedural, and conditional knowledge that all students need to become more effective writers of exposition. Second, students involved in this study, including those with LD, improved their ability: to identify and restate main ideas and supporting details, to reduce plagiarisms, and to include text structures and vocabulary specific to exposition. Third, the RAP and PAR Strategies, as described in this study, are generaliseable and can be adapted by teachers for primary or highschool use or could be integrated across curricula. Of course, students' performances related to strategy use, writing, and metacognition would vary depending on the students' ages and developmental stages. In a similar vein, teachers' choices of methods would develop according to their beliefs and expectations. A fourth contribution is my voice as a teacher. Teaching can be an isolating experience when one is meeting the demands of running a single classroom effectively. Just as students need be immersed in a writing culture, teachers

need to be immersed in a culture where their professional development is not incidental. Rather, teachers should be given the opportunity to develop into educational experts of the highest calibre.

My reflections about the paradigms of contructivism and reductionism, my techniques for encouraging student autonomy, my efforts to teach the difficult concept of identifying main ideas, and my methods for teaching explicitly are intended to be shared, reflected upon, and further developed. Finally, I recognize that this study, in terms of results, is not exactly reproducible, nor is that necessarily the point (Poplin, 1988b). Although determining the effectiveness of my instructional methods and enhancing students' learning were two goals, there was no single path by which this could be achieved. It would interest me to observe how a note-taking/report-writing unit could take shape in another teacher's classroom or how a strategy instruction model might develop for another teacher. I hope that my experiences, decisions, reflections, and modifications can inform and possibly help other teachers who are reflecting upon their teaching paradigms and refining their instructional model. I believe that every teacher's voice that is heard in the research encourages that missing link between research and practice.

I profoundly believe in and hope for educational reform. I believe that reform is about individuals who want to make a difference. Research methods and results need to reach and be valued by teachers. In education, interventions or treatments or control groups are really about teachers and students. There is no way to eradicate their humanity from the picture without losing what really matters. Attention needs to be given to the social factors and norms that exist within a classroom, a school, and also in society at large (Swanson & Hoskyn,

1998). Traditional experimental paradigms need to be expanded to account for the individuals and their interactions. I feel that classroom research by teachers has a valuable place in educational research, especially, as in this study, when the work is guided and overseen by experienced researchers.

Limitations

A school is a dynamic setting, and many unforeseen events can have an impact on instruction. Usually these are seen as limitations within a study; however, the point is that strategy instruction can be effective in a naturalistic setting where instructional challenges occur on a regular basis. I have an issue with the term *limitation* because I believe it is a remnant of the traditional experimental paradigm where an absolute must be achieved. The word *limitation* suggests to me that a person's choices in his/her own learning can be faulty, which does not give credibility to the mistakes, that I am coming to understand, are a necessary part of learning. Coming from a sociocultural constructivist stance, there are no ultimate and tidy models. I did catch myself thinking, " I wish I had known then what I know now," which is ironic given that I needed to have the experiences in the first place to inspire the learning.

I also recognize that the learning and understandings in this paper are uniquely my own and do not extend beyond my perspectives and misunderstandings. The perspective in this paper is my interpretation and understanding of a great many educators, thinkers, and researchers. My study has been a personal learning experience. Reading a qualitative paper such as this one requires that the reader, at least in part, accepts the anecdotal accounts of the participants (Scruggs & Mastropieri, 1995). Even my students are presented through my

filtering of their comments and end-products. Data collection procedures cannot fully document or measure my students' covert strategic thought processes. By including a variety of data collection methods, there is less ambiguity when attempting to assess a student's cognitive and metacognitive processing (Garner, 1988); however, there is much I did not uncover.

Teaching is a long term endeavour and effective instructional strategies take years to develop (Pressley et al., 1992). This study is just a point on a continuum of my development as a teacher. I am not sure there is even something as tidy as a continuum that describes effective teaching. It seems to me that effective teaching is more like a tangled web of discoveries and rediscoveries that sometimes require returning full circle to a method once rejected. In other words, I do not believe a teacher's paradigm or teaching model remains the same even when it may look the same. Even though research strongly suggests that the teacher is the key element to strategy instruction (Duffy, 1993), the findings of this study are best synthesised with others' previous findings to establish effective instructional approaches (Wilson-Schaef, 1985).

Future Research

Today, researchers may feel the need to distance themselves from either qualitative or quantitative research depending upon their purpose. Perhaps, a balance can be found by establishing an alternative methodology that encompasses both (Scruggs & Mastropieri, 1995). Given the nature of the data collection a teacher does everyday, quantitative and qualitative methodology may blend especially well when a classroom is the research setting.

Kline et al. (1992) ask the question: "What constitutes successful implementation of

strategy instruction" (p.397)? These researchers found that their program designers and evaluators were having difficulty determining what standards could be considered acceptable. Their *Learning Strategies Curriculum* followed a reductionist model of design and implementation in which the teacher was given the package and the learners were expected to learn the prescribed material. I believe that the researchers were beginning to realize that in keeping control of the learning of both the teacher and the student, they had lost the interest of the teachers who needed to be able to take ownership of new practices and materials and imbed them into their current models of instruction.

I believe that the future of research in strategy instruction needs to focus less on trying to promote a particular model. Instructional models are the personal signatures of teachers. Rather, learning strategies that improve student learning and teacher practices that enhance student learning, autonomy and generalisation of strategy use need to be developed, reflected upon, and shared. The sharing occurs with the understanding that each teacher or student who adopts a strategy will transform it and personalise it. The vehicle for this may be classroom research led by single teachers or small groups of teachers and, if possible, guided by expert researchers. Vaughn et al. (2000), believe that effective principles of instruction (e.g. controlling task difficulty, small group instruction, and directed response questioning) are not being implemented in classrooms in a widespread manner. These researchers state, "We as researchers know a great deal about these principles, and therefore the responsibility is ours to ensure that they are implemented (p. 111)." I suggest that a collaborative model uniting researchers and teachers to share the responsibility of linking research and practice may be the impetus for educational reform. So, in response to Vaughn et al., I rebut: We as teachers

know a great deal about the realities of the inclusive classroom; therefore, it is our right to be included in a collaborative process of educational research. It is also our responsibility to direct that research for the betterment of public education.

Conclusion

I experienced first hand the benefits of classroom research under the mentorship of two university-based researchers. Without a doubt, my hardest thinking and deepest learning came from all the experiences, over a six year time period, of completing my coursework towards my Master degree in curriculum and instruction, of conducting this study, of writing this thesis, and of responding to this learning within my own classroom. Still, I feel like I am only at the *packing my suitcases* stage of a long journey.

Teachers are criticised for being ineffective and for not keeping up with the research. We are being viewed from a deficit model. That is, there is something wrong with us because children are not learning what they are "supposed" to be learning. As we, for the sake of our students, rethink how our classrooms can become meaningful learning centres, we also need to rethink how research and teacher education can become meaningful for teachers. The teachers I know care a great deal about their learning and that of their students. We are a receptive group to paradigm shifts and educational innovations. My experience with teachers and administrators are that they are passionate about education.

Poplin (1988b) articulates that the dominating paradigm in education is reductionism. She believes that the principles of reductionism make it easier to articulate, develop curriculum, and train and evaluate teachers. She states that reductionism is pervasive but imperceptible within the system. Implementing non-reductionist practices remains extremely

complex. I understand Poplin's view. I was caught expressing and enacting reductionist principles numerous times by my mentors as they edited my drafts of this thesis. I was promoting constructivist methods but speaking of my students and myself in reductionist terms without even being conscious of it.

My work surrounding this paper has allowed me to view learning strategies, instructional models, learning disabilities, student thinking, and reductionism from the perspective of constructivism. Regardless of the paradigm, I believe that effective teachers, through teaching experiences, professional development, and research development, construct their own individual model of instruction over a lifetime. It is important that these models of instruction are better understood by grounding them in theory or making the theories behind the practice explicit rather than implicit. As Poplin (1988b) states, "Many teachers have begun to write about their practices, and in so doing, to reveal the essence of constructivism far more clearly than theoretical description can do" (p. 413). Teachers should be encouraged to write about their experiences for the purpose of research.

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Appendix A

Sample of the Informed Consent Letter and Form

Karin Paterson
c/o Administration Offices
1894-9th Avenue
Prince George, BC V2M 1L7
phone:

Re: Research on Expository Writing in an Inclusive Grade Six/Seven

January 29, 2002

Dear Parents/Guardians,

I would like to request your child's participation in a study I am conducting from January 2002 to May 2002 on essay writing.

I am currently a graduate student in Curriculum and Instruction at the University of Northern British Columbia. I am intending to collect data toward my masters thesis: Expository Writing in an Inclusive Grade Six/Seven Classroom. I plan to teach students a strategy to help them improve their reading and writing of essays. The data I am intending to use for the study will be the students' writing, their learning log entries, and tape recordings of class lessons and teacher/student conferences.

As my teaching throughout the study will resemble what I normally do in the classroom, there is no greater risk associated with this study than the usual school activities. I am very excited about the research I have already done on the topic of essay writing and expect improved quality of essay writing from all my students.

Your child has been chosen to participate in this study as he/she is enrolled in my classroom. Your child is required to participate in the essay writing unit as part of the regular curriculum and will be graded for the report card as usual. Your child will be expected to participate in writing strategy instruction, related class discussions, and writing activities. I will only use data in my thesis for which I have received your consent. This means your child will be required to complete the assignments, but your child's data will not be included as part

of the study unless you have consented. You may terminate your child's participation in the study at any time without penalty to your child.

People who will have access to the data include school staff, the UNBC research committee, and School District 57 administration. Additionally, the information from this study may be published in academic research journals. As a parent, you have unlimited access to your own child's data but not the data of any other child. You may get a copy of the research results upon completion of the study.

Your child will remain anonymous in the reporting of the data. All interpretation of data will be kept confidential and off the school premises. Data will be kept for five years.

I am available at 963 - 7060 to answer any questions. You may also contact my thesis supervisors Dr. Judith Lapadat at 960 -6667 and Mrs. Trudy Mothus at 960 - 5639. If you have any complaints about the study, they should be directed to the Vice-President Research at UNBC at 960 - 5820.

Please complete the attached consent form and have your child return it to me as soon as possible. You will receive a copy of your completed and signed consent form for your records.

Thank you very much for your support.

Sincerely,

Karin Paterson

Please answer each of the following questions by circling either a YES or NO. Sign and clearly print your name and fill in the date on the lines provided. Have your child return this form to me as soon as possible.

1) Do you understand that you have been asked to give permission for your child to be in a research study?	YES	NO
2) Have you read and received a copy of the attached information letter?	YES	NO
3) Do you understand that your child may be tape recorded?	YES	NO
4) Do you understand the benefits and risks of your child's participation in this study?	YES	NO
5) Do you understand that you may ask questions and discuss this study with the researcher?	YES	NO
6) Do you understand that you are free to refuse to allow your child to participate, or you are free to withdraw your child from the study at any time?	YES	NO
7) Do you understand that your child will remain anonymous in the reporting of the data?	YES	NO
8) Do you understand who will have access to the data collected in this study?	YES	NO

I agree to allow my child to take part in this study:

_____ _____

(Signature of Parent/Guardian) (Date)

_____

(Printed Name of Parent/Guardian)

I, Karin Paterson, believe that the person signing this form understands what is involved in the study and voluntarily agrees to let his/her child participate.

_____ _____

(Signature of Researcher) (Date)

Appendix B

Student Visuals

Steps For Note-taking (RAP)

R - Read a paragraph

A - Ask yourself, "What is the main idea and what are the supporting details?"

P - Put the main idea and supporting details in your own words.

Steps For Writing a Report (PAR)

P - Put your RAP's into new or combined categories.

A - Ask yourself, "What is the new main idea of each new category?"

R - Record each main idea and the related supporting details in a paragraph in your own words.

Teacher - Directed Lessons

L - Lapse into silence

I - Identify and eliminate distractions

S - Sit facing the teacher

T - Track the teacher

E - Engage your brain. Think!

N - Note-take when necessary.

Appendix D

Examples of Two Source Assessment Articles

Spiders

Many people think spiders are insects, but insects have six legs. Actually, spiders have eight legs and are called arachnids (*uh RAK nihdz*).

Spiders have a tough outer skeleton. Their bodies have two parts: a joined head and chest and an abdomen, or belly. All spiders have claws called fangs. They stab an insect with their fangs. Then they suck the insect's body fluids.

Spiders have short silk-spinning organs called spinnerets on their abdomens. Wherever a spider goes, it spins a silk thread. The spider can get away from enemies by hanging in the air on its thread or dropping to the ground.

Spiders hunt in different ways. Spiders eat mainly insects. Most kinds of spiders spin webs to catch insects. Hunting spiders often creep up on insects. Sometimes they hide and then pounce on the insects.

Most male spiders make special movements to signal female spiders not to eat them. After they mate, the female spiders lay eggs. When young spiders hatch, they begin spinning threads. Many of them "fly" to other areas. They climb to a high place and spin their lines. The breeze catches their silk and lifts them into the air.

Cacti

Cactuses, or cacti, are a type of plant. Cacti grow in North and South America. Most cacti grow in hot, dry places. Cacti can also grow in rain forests and mountains. Some cacti even grow in cold places. The cactus family includes more than two thousand species of plants. Most of them are xerophytes. Xerophytes are plants that can live and grow without a lot of water.

Cacti come in all shapes and sizes. For example, the giant saguaro (suh GWAH roh) can grow taller than a house. Other cacti are less than 2.5 centimetres. Some small cacti look like small, round pincushions, starfish, or even blades of grass.

Cacti have spines rather than leaves. The spines may be long or short and soft or sharp. They may have straight or hooked tips. They protect the plant from being eaten by animals. The spines do not produce any food for the plant like the leaves of trees. It is the thick, fleshy, green stems rather than the spines that make food. These stems also store water. They have tough, waxy skins to prevent water being lost through evaporation.

The roots are covered with cork and are very long. Because the roots grow near the top of the ground they an collect water from even the smallest rainfall.

All cacti have flowers. White or colourful flowers bloom after a rainfall. Many cacti also produce the fruit that humans and animals can eat. Some people even make jams and jellies from the fruit.

Appendix E

RAP Mark Sheet

RAP SCORE SHEET

Main Idea	Details	Incomplete	Inaccurate	New Info	Repetitive	Unmeaningful	Not Useful	Too General	Plagiarized
Paragraph 1									
MI									
	D1								
	D2								
	D3								
Paragraph 2									
MI									
	D1								
	D2								
	D3								
Paragraph 3									
MI									
	D1								
	D2								
	D3								
Paragraph 4									
MI									
	D1								
	D2								
	D3								
Paragraph 5									
MI									
	D1								
	D2								
	D3								

Calculating the Score: Main Idea Points (maximum 1/paragraph) = _____ Supporting Detail Points (maximum 3/paragraph)= _____

$$\frac{\text{Total Score}}{\text{\# paragraphs x 4}} = \_\_\_\_\_ = \square \%$$

Appendix F

Report Assessment Form

REPORT WRITING RUBRIC

QUALITY ASPECT	Level 1 Not Yet Within Expectations	Level 2 Meets Expectations (Minimal)	Level 3 Fully Meets Expectations	Level 4 Exceeds Expectations	WT	MK
SNAPSHOT	The report is difficult to follow because of the many errors.	The report meets most requirements but has noticeable errors.	The report is easy to follow and accomplishes the basic purpose.	The report is clear, complete, concise, and effective.	//	
MEANING						/16
• purpose	Not clear. Unfocussed.	Stated. Focus may wander.	Clear. Generally focussed.	Clear. Focussed.	X1	/4
• information	Inaccurate or copied.	Generally accurate.	Mostly accurate. Complete.	Accurate, complete.Multi-sources.	X1	/4
• details	Few, irrelevant, or repetitive.	Some irrelevance or inaccuracy.	Mostly relevant.	Specific clarification.	X1	/4
• audience	No sense.	Little sense.	Some sense.	Awareness and consideration.	X1	/4
STYLE						/16
• language	Simple, repetitive.	Simple. Often vague.	Clear. Some varied/specialized vocab.	Clear, varied, specialized vocab.	X2	/8
• sentence structure	Very flawed. Run-ons/fragments.	Varied length, but few patterns. Errors.	Varied length.Complex sentences errors.	Varied length and patterns. Smooth.	X2	/8
FORM						/32
• introduction	Purpose unclear.	Purpose stated but too general.	Clearly presented purpose.	Clear. Engaging.	X2	/8
• body sequence	Disjointed. Unclear connections.	Mostly easy to follow.	Logical. Simple connecting words.	Cohesive.Connecting words/phrases.	X2	/8
• body paragraphs	Ineffective or omitted.	Attempts. Most main ideas stated.	Main ideas and details. Some errors.	Main ideas and supporting details.	X2	/8
• conclusion	May omit.	Abrupt or weak.	Logical. Limited focus/overgeneralization.	Sums up info. Attempts to impact.	X2	/8
CONVENTIONS						/12
• spelling	Many basic words misspelled.	Most basic words spelled correctly.	Most familiar words spelled correctly.	Most words spelled correctly.	X1	/4
• punctuation	Frequent errors.	Mostly correct but comma/capitals errors.	Correct but minor comma errors.	Correct including commas.	X1	/4
• grammar	Many errors including word choice.	Some errors including word choice.	Rules followed. Occasional errors.	Follows all rules.	X1	/4
WRITING PROCESS						/24
• prewriting	No evidence.	Some evidence. Sketchy plan.	Planning attempted but some gaps.	Well planned.	X2	/8
• pen a draft	Incomplete draft.	Sparse but draft is complete.	Draft is complete.	Energy is put into drafting.	//	N/A
• perfect by editing	No evidence.	Some evidence.	Piece is improved but items overlooked.	Significant changes.	X2	/8
• proofread	No evidence. Many errors.	Some evidence. Errors remain.	Most errors corrected though some remain.	Very few errors.	X2	/8
• publish	Parts are difficult to read.	Legible.	Neatly presented. Some special features.	Very neat. Includes special features.	//	N/A
				TOTAL		/100

Appendix G

Revised Report Assessment Form

REPORT WRITING RUBRIC

QUALITY ASPECT	Level 1 Not Yet Within Expectations	Level 2 Meets Expectations (Minimal)	Level 3 Fully Meets Expectations	Level 4 Exceeds Expectations	WT	MK
MEANING	0	3	4	5		
• purpose	No focus.	Focus wanders.	Clear. Focussed.	Powerful. Engaging.		
• main ideas	No sense of main ideas of topic.	Some main ideas included to develop topic.	Main ideas sufficiently develop topic.	Main ideas thoroughly develop the topic.		
• facts/details	Irrelevant, repetitive, or inaccurate.	Relevant but too few details.	Sufficient and meaningful to topic.	Specific, highly informative facts.		
• audience	No sense of reader.	Little sense of reader.	Some awareness and consideration.	Draws the reader in.		
STYLE						
• language	Very few connecting words and specialized vocab.	Limited use of connecting words and specialized vocab.	Sufficient use of connecting words and specialized vocab.	Engaging use of connecting words and specialized vocab.		
• sentence structure	Very flawed. Run-ons/fragments.	Few patterns. Errors.	Developing varied lengths and patterns.	Smooth. Well developed.		
FORM						
• introduction	Not present.	An attempt is made but intro is too sparse.	An adequate grab, thesis statement, and overview of main idea is included..	Specific thesis. Clear outline. Engaging grab.		
• body sequence	Random retelling of facts.	Little thought to overall order.	An overall order is attempted.	Cohesive paper developed with a clear plan.		
• body paragraphs	Undeveloped.	Attempted grouping of facts.	All facts grouped by main idea.	Main ideas developed with carefully organized facts.		
• conclusion	Not present.	Abrupt or weak.	Summarizes paper. Attempts to impact reader.	Powerfully summarizes paper. Impacts reader.		
CONVENTIONS						
• spelling	Many spelling errors. Paper is difficult to read.	Many spelling errors but paper can be read.	Common spelling errors.	Very few spelling errors.		
• punctuation	Frequent errors. Paper is difficult to read.	Many errors including end punctuation.	End punctuation is generally correct but comma errors are present.	Commas, colons, hyphens are generally used correctly.		
• grammar	Many errors including word choice.	Some errors including word choice.	Rules followed. Occasional errors.	Follows all rules.		
WRITING PROCESS						
• prewriting	No evidence.	Little evidence of planning.	Sufficient planning.	Well planned.		
• drafting	Incomplete. Much copying. Not evidently a report.	Sparse but complete report. Some copying.	Complete and sufficient report. Little to no copying.	Well written report. No copying.		
• editing	No evidence.	Few changes made.	Piece is improved but items overlooked.	Significant changes.		
• proofread	No evidence.	Few changes made.	Many errors corrected though some remain.	Majority of errors corrected.		
• publish	Parts are difficult to read.	Legible.	Neatly presented. Some special features.	Very neat. Includes special features.		
				TOTAL		

Appendix H

Report Assessment Form Used to Score Pre and Postassessments

REPORT WRITING RUBRIC

QUALITY	Level 1	Level 2	Level 3	Level 4	WT	MK
ASPECT	Not Yet Within Expectations	Meets Expectations (Minimal)	Fully Meets Expectations	Exceeds Expectations		
MEANING	0	3	4	5		/30
• purpose	No focus.	Focus wanders.	Clear. Focussed.	Powerful. Engaging.	//	N/A
• main ideas	No sense of main ideas of topic.	Some main ideas included to develop topic.	Main ideas sufficiently develop topic.	Main ideas thoroughly develop the topic.	X3	/15
• facts/details	Irrelevant, repetitive, or inaccurate.	Relevant but too few details.	Sufficient and meaningful to topic.	Specific, highly informative facts.	X3	/15
• audience	No sense of reader.	Little sense of reader.	Some awareness and consideration.	Draws the reader in.	//	N/A
STYLE						/15
• language	Very few connecting words and specialized vocab.	Limited use of connecting words and specialized vocab.	Sufficient use of connecting words and specialized vocab.	Engaging use of connecting words and specialized vocab.	X3	/15
• sentence structure	Very flawed. Run-ons/fragments.	Few patterns. Errors.	Developing varied lengths and patterns.	Smooth. Well developed.	//	N/A
FORM						/35
• introduction	Not present.	An attempt is made but intro is too sparse.	An adequate grab, thesis statement, and overview of main idea is included..	Specific thesis. Clear outline. Engaging grab.	X1	/5
• body sequence	Random retelling of facts.	Little thought to overall order.	An overall order is attempted.	Cohesive paper developed with a clear plan.	X2	/10
• body paragraphs	Undeveloped.	Attempted grouping of facts.	All facts grouped by main idea.	Main ideas developed with carefully organized facts.	X3	/15
• conclusion	Not present.	Abrupt or weak.	Summarizes paper. Attempts to impact reader.	Powerfully summarizes paper. Impacts reader.	X1	/5
CONVENTIONS						
• spelling	Many spelling errors. Paper is difficult to read.	Many spelling errors but paper can be read.	Common spelling errors.	Very few spelling errors.	//	N/A
• punctuation	Frequent errors. Paper is difficult to read.	Many errors including end punctuation.	End punctuation is generally correct but comma errors are present.	Commas, colons, hyphens are generally used correctly.	//	N/A
• grammar	Many errors including word choice.	Some errors including word choice.	Rules followed. Occasional errors.	Follows all rules.	//	N/A
WRITING PROCESS						/20
• prewriting	No evidence.	Little evidence of planning.	Sufficient planning.	Well planned.	X2	/10
• drafting	Incomplete. Much copying. Not evidently a report.	Sparse but complete report. Some copying.	Complete and sufficient report. Little to no copying.	Well written report. No copying.	X2	/10
• editing	No evidence.	Few changes made.	Piece is improved but items overlooked.	Significant changes.	//	N/A
• proofread	No evidence.	Few changes made.	Many errors corrected though some remain.	Majority of errors corrected.	//	N/A
• publish	Parts are difficult to read.	Legible.	Neatly presented. Some special features.	Very neat. Includes special features.	//	N/A
				TOTAL		/100

Appendix I

Student Directions on Three Assessments

Pre-assessment and Post-assessment

A/ List the main idea and 3 supporting details for each paragraph on the lines below in complete sentences and in your own words.

B/ Combine the information from the two articles about spiders to write a 5 paragraph report in your own words. You may use the space below to plan your writing. Do a draft and a good copy on your own paper.

Student Questionnaire

1) Describe as clearly as you can and in full sentences, everything you learned about report writing this year.

2) What do you understand better about report writing this year than you did last year?

3) Explain how you believe RAP, the writing process and report writing fit together.

4) What do you think your teacher could have done differently to make report writing better for you?

Appendix J

Scoring Procedures For Pre- and Post-assessments

Instructions For Additional Raters

1) Read through all 16 samples first to familiarize yourself with the reports.
2) Begin establishing the level of each aspect being scored based on the criteria. Mark the student text to code or count observations. Place a checkmark in pencil on the mark sheet to establish your initial assessment of the student's level.
3) Go back and recheck your assessment. Commit with pen your final assessment.
4) Score and total the each students' final total.

1) Meaning Subsection

Main Ideas: Assume one main idea per paragraph. If there is no paragraphing, note where they would be for assessment purposes. The main ideas may be paraphrased or combined from the articles or the main idea may be understood rather than directly stated based on how the supporting details link. The main idea may not be paraphrased (5 or more copied words in a row)

Level 1: substantially more than half of the main ideas are unacceptable.
Level 2: about half of the main ideas are acceptable
Level 3: all main ideas are correct but not original
Level 4: all main ideas are original as compared to the articles

Facts/Details: Supporting details are the number of facts that are included not matter how they are grouped. Do not count supporting details that are plagiarized or are inaccurate as related to the articles.

Level 1: less than 10 facts
Level 2: 10 - 14 facts
Level 3: 15 - 25 facts
Level 4: 26+ facts

2) Style Subsection

Language: looking for connecting words and specialized vocabulary. Count a word only once no matter how many times it is repeated (see attached list for examples)

Connecting Words

Level 1: 0 - 2 connecting words
Level 2: 3 - 6 connecting words

Level 3: 7 - 13 connecting words
Level 4: 14+ connecting words

Specialized Vocabulary

Level 1: less than 10 specialized vocab
Level 2: 10 - 19 specialized vocab
Level 3: 20 - 39 specialized vocab
Level 4: 40+ specialized vocab

Sentence Structure: look for a variety of sentence types. Rater's sense based on knowledge of grade 6/7 writing and descriptors on rubric

3) Form Subsection

Introduction: a paragraph distinct from the body of the report. Rater's sense based on knowledge of grade 6/7 writing and descriptors on rubric

Body Sequence: the order the main ideas and supporting details are presented. Rater's sense based on knowledge of grade 6/7 writing and descriptors on rubric

Body Paragraphs: main ideas are supported by the accompanying supporting details

Level 1: less than 2 supporting details per paragraph
Level 2: some paragraphs have only 2 supporting details
Level 3: all paragraphs have 3 to 5 supporting details
Level 4: all paragraphs have 6 or more supporting details

Conclusion: is distinct from the body of the report. Rater's sense based on knowledge of grade 6/7 writing and descriptors on rubric

4) Writing Process Subsection

Prewriting: any type of planning you may have to look at their RAP's to see if they have coded them in some way to represent grouping or order. Rater's sense based on knowledge of grade 6/7 writing and descriptors on rubric

Drafting: look at the best version of their report if they did a "good copy." Rater's sense based on knowledge of grade 6/7 writing and descriptors on rubric

Appendix K

Instructional Sequence

Date	*Description*
January 25	Letters of informed consent go home to parents.
January 30	Pre-assessment is administered.
February 4	Lesson 1: introduction to non-fiction, keywords, and the writing process.
February 5	Lesson 2: introduction to non-fiction, keywords, and the writing process.
February 6-18	Lessons 3-6: collaborative and independent key word assignments
February 19	Lesson 7: The RAP Strategy is indroduced.
February 20	Lesson 8: The RAP Strategy is reviewed. Collaborative assignments.
February 21	Lesson 9: Review of keywords. RAP continues. Observed by mentor.
February 26	Lesson 10: RAP continues.
February 27	RAP lesson modelled by mentor.
March 4 & 5	Substitute teacher
March 6	Lesson 11: Review of main idea. First PAR Strategy group emerges.
March 7	Lesson 12: Collaborative or independent work on RAP or PAR.
March 12	Lesson 13: Collaborative or independent work on RAP or PAR.
March 13	Lesson 14: RAP practice moves from individual paragraphs to 5 paragraph essays. Students filtering into PAR group.
	SPRING BREAK
March 26	Lesson 15: Review. RAP and PAR collaborative or independent work.
March 27 - April 4	Lessons 16-19: RAP and PAR collaborative or independent work.
	GRADE SEVEN FOUNDATIONS SKILLS ASSESSMENT
April 30 - May 16	Lessons 20-26: RAP and PAR collaborative or independent work.
May 21 - June 4	Lessons 27-34: All students working on PAR and independent reports.
June 11-13	Lessons 35-36: Cumulative review
June 18	Post-assessment is administered.
June 24	Student Questionnaire is administered by a substitute teacher.

Appendix L

RAP Strategy Assignments in Original Form

Sample 1:

People think spiders are insects but there not
insects have six legs
spiders have eight legs
spiders are arachnids

Spiders have a tough outer skeleton
their bodies have two parts
all spiders have claws called fangs
they stab a insect with there fangs

Sample 2:

L/ MI Cacti's roots.

D#1 The roots of a cactus are covered with cork.
D#2 The cactus's roots are long and grow near the top of the ground.
D#3 The roots are so close to the grounds surface they can get water from the tinest rainfall.

Sample 3:

Bermuda Triangle

1. M.I.-The crew of a ship called the Vagabond once disappeared in the Bermuda Triangle.

D#1-The Vagabond was 20 feet long.

D#2-A crew of another ship found the Vagabond on July 6, 1969.

D#3-On board everything was in the right place, but the crew was no where in sight.

D#4-The last time the Vagabonds logbook was written in was July 2, 1969.

Appendix M

Samples of Prewriting Oraganisation

Sample 1: minimally meets expecations

7

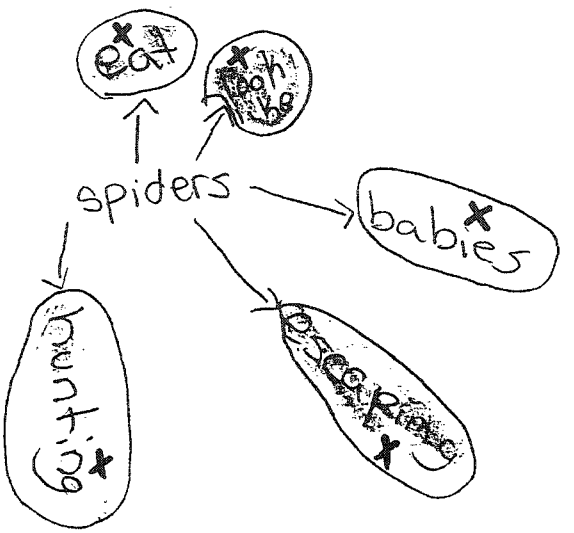
M.I. Canadians are mostly christian.

D#1 Ontario has 2a percent of people that goto the United church.

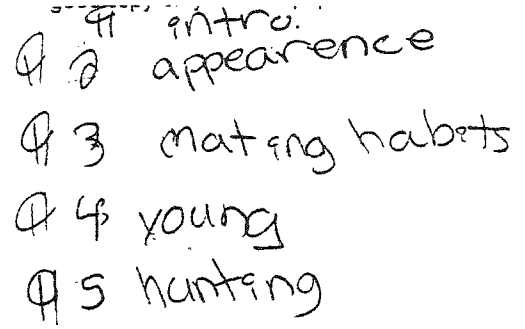
D#2 25 percent are Roman Catholic.

D#3 21 percend are Anglicans.

Sample 2: minimally meets expectations



Sample 3: minimally meets expectations



Sample 4: fully meets expectations

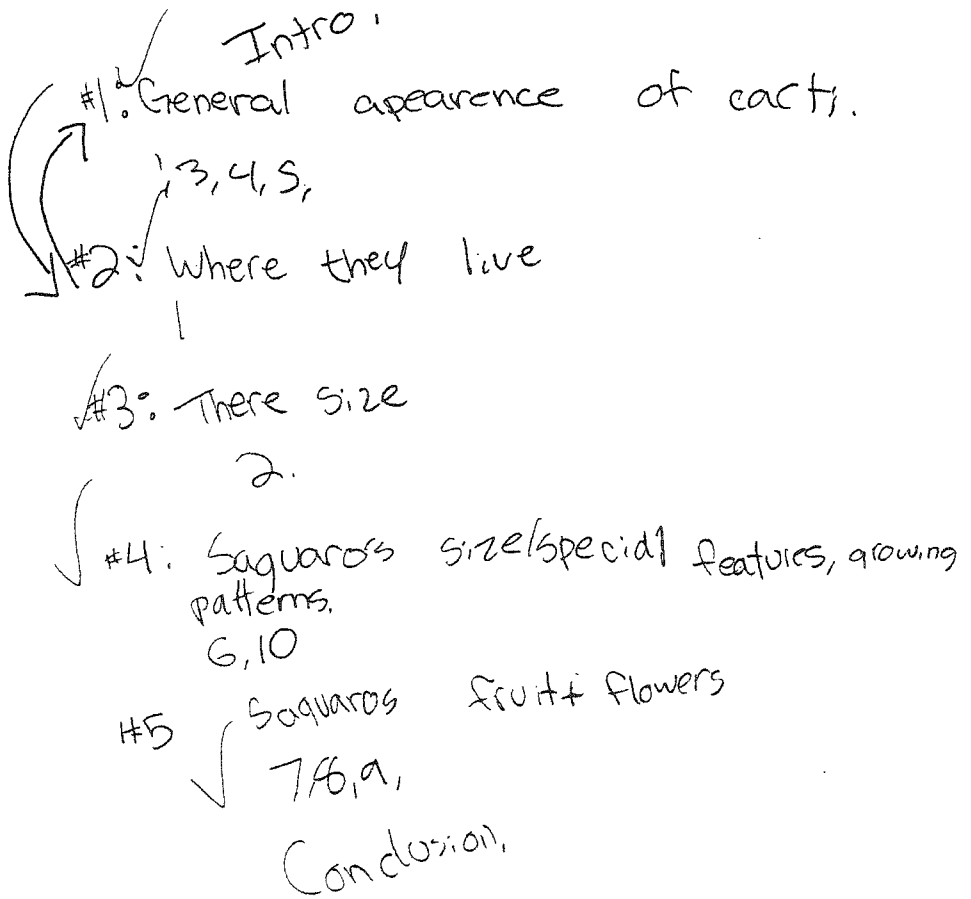
Article 2:

The Saguaro is a really big cactus.
Saguaro is the biggest in North America.
It can grow to a hight bigger then a telephone pole.
This cactus is a home to many animal's because of it's hight. Saguro is so big, that it can have lot's of water
Around May saguaro grow's flowers
These flower's are white with yellow middals.
The flower's grow near to the top & arm's of this cactus
The smell of these flower's attract insects
Fruit is also grown on a Saguaro plant.
This fruit grows at the base of a flower
When it's ripe it opens and in it they red juice and black seed's
People nearby make these fruits into jam's and candy.

Sample 5: exceeds expectations

~~Paragraph #~~	Order	Catigory	Main Idea.
1	1	Cactuse	what is a cactuse?
2, 1 from 6	~~3~~	size	how big?
3	~~4~~	leaves	No leaves!
4	~~5~~ 2	roots Sagoar	About the roots. Sagoar catuse
~~5~~ 7, 8, 9	~~6~~	flowers / fruit	flowers
10	~~7~~	age	how old.

Sample 6: exceeds expectations



Appendix N

Student Assessment Samples and Holistic Ratings

Sample 1: Does Not Yet Meet Expectations

I think the black widow is pretty smart. I like how smart they are because they now how to hunt there food and to protect there babies. And it's neat how the female has red stipes but the male has no stripes on there belly. Its pretty werd how the female black widow eats it'male and it's babies sometime's. An its neat how the black widow spider also has a head a chest and a belly that only two parts joined together out off their hole body. Its gross how the black widow uses there fang's to suck the blood out of their pray. Its cool how the spider can spin silk thread. Its werd how the baby spider can fly to different areas. And the male is only a 3rd of the size of a female black widow.

Sample 2: Does Not Yet Meet Expectations

Cactuses and saguaro are very different. they take very long to grow, but who could take, even longer. saguaro is the biggest one of all. Even if the cactuses were A meter bigger it would not compare in size with the huge size of the sagauro. The cactus is to small, being tall doesnt have the greatest advantage of all though. it has small roots to give it close range of water. and animals can get to it easier. There are two thousand plants and these that I am talking about are only a mear two of them out of those numbers.

will there be bigger plants or is there already not found yet? no, becuase sagauro is the biggest cactus ever to be seen.

Sample 3: Minimally Meets Expectations (low end)

Lots of cacti are grown in sunny [unidentifiable word] places. A little bit of cacti grows in chilly places. A family of cactuses includes more than 2 000 different species of plants.

Suhgwah grows higher than a house. Different cacti are smaller than 2.5 cm tall. Some cacti look just like round pincushions, starfish, and blades of grass.

Cacti are short and long, sharp and soft. Cacti have straight hooked tip. The straight hooks protect them from animals.

The roots are smered with cork and is very long. The roots spread all around the plant. The roots grow close to the ground so they can collect water.

Colourful or white flowers grow after a rain fall. Cacti can make fruit that animals and humens eat. People make jam and jellies from the fruit.

Sample 4: Fully Meets Expectations

In this report I am going to tell you some stuff I learned and researched about cacti the plant.

Cacti can grow in many different places. Cacti grows in mostly hot desert places. Some cacti can grow in the cold atmospheres. The cactus family produces over 1 thousand plants including xerophytes & Xerophytes than can last a while longer than others without water.

Cacti plants can grow big or small. Cacti plants can grow 8 feet or taller eg. saguaro. Some cacti can be as short as 20.5 mm. The smaller cacti's look like many various different things such as blades of grass, round pincushions or even a starfish. The cacti spins can be all different. Cacti may have sharp or soft short or long spins. Cacti may even have hooked or straight tips. The cacti plant protecs and produeses food for there selfs and has waxy skin to keep the water inside them to store.

Cacti plants have good protection and good at getting water. Cacti plants have cork going all around them that are pretty long. Cacti's roots grow mostly from the top. It's easier to collect water the way the cacti plant is built with the roots growing on the top of the ground.

Most cacti plants make and produce things. Cacti grows flowers after a rainfall either colourful or white flowers. Cacti plants also make fruit for animals and humans to eat. Some humans even make jelly or jams from the fruits. The saguaro plant starts to bloom in May. Sticky flowers start coming on top of the cactus with yellow centers. The flowers start to open up on the cactus at night. The nice sweet smell the flower has attrakes flying animals eg. bees & more. In aprox 35 day's fruit tends to start growing on the flower. After the fruit is not green anymore it opens. Inside this fruit it is red with black seeds and is juicy. In June the Native American's that live close get the fruits to make candy & jam.

Saguaro is one of the biggest plants in the world. Saguaro is a very very tall cactus that is like a tree. A saguaro plant grows in North America only in Sonora desert. Animals like birds & some insects live under a saguaro.

Saguaro gets help from animals to plant more saguaro's. Coyotes, packrats and birds come to eat the fruit. The fruits on the cactus has aprox two thousand seeds in it. When animals eat the fruit they spit out the seeds and then the seeds grow new saguaro's. Saguaro plants grow slowly. When a Saguaro is 2 years it is 10 mm tall. When a saguaro is 25 years it is 100 cm tall. When a saguaro is full grown it is about 150 years old the plant may have 6 or 7 arms it lives until it's a 200 years old.

I have just told you about cacti the plant I hope you have enjoyed this report as much as enjoyed researching it.

Sample 5: Fully Meets Expectations

Did you know that some cacti can grow to be bigger than a telephone pole or a house? Or did you know that the Saguaro Cactus can hold over a ton of water? If not you should read my report on cacti, I will be talking about the parts of a cactus, the different shapes and sizes of cacti, where they grow, and the Saguaro Cactus. A cactus is a plant that can grow mostly anywhere like in dry, hot weather, cold weather, and in North and South America.

They have thick green stems and tough waxy skin that helps prevent water loss, their roots grow close to the surface which makes it easier to collect water.

Some parts of the cactus are the stem, the spines, the flower, the roots, and the skin. The stem is a thick and green coloured, the skin is the part surrounding the stems it is tough and waxy. The skin helps prevent water loss in the dessert sun. The flowers on some cacti are white others are many different colours some bloom after rainfall. Many also produce fruit. The fruit it produces is edible to both humans and animals. Some people even make jams and jellies from the fruit. The cacti roots grow near the surface of the soil which makes it easier to collect water, the roots are wrapped in a type of cork.

Cacti come in many different shapes and sizes. Take for an example the Giant Saguaro it can grow to be taller than house. Some other cacti are twenty-five millimeters, other small cacti look like pincusions, starfish, or even a blade of grass. As you can tell cacti come in many different shapes and sizes.

Where do cacti grow? In the desert most people say. Well have I got news for you. Cacti can grow just about anywhere. It just depend on the cactus, they can grow just about anywhere.

The Saguaro is a type of cactus that can grow to be as tall as a telephone pole and can hold up to a ton of water. It provides animals with a place to live such as Hawks, Woodpeckers, and insects, but also provides the local natives with food because they collect the fruit to make jam and candy, and other animals such as coyotes, birds and packrats eat the sweet fruit. The flowers of the cactus generally bloom in early may. The sweet scented flowers are white and feel waxy they have yellow centers and bring birds, bees, and bats to drink the nectar, but the flowers only open at night. Each fruit has about two thousand seeds. The animals that eat the fruit spread the seeds by dropping them while they eat. It takes about five weeks for the fruit to mature, when the green fruit is ripe it explodes. Inside that fruit is a juicy red middle with little black seeds.

The Saguaro Cactus is only one centimeter tall at twenty-four months, at twenty-five year it is one meter, at one hundred fifty years old is has reached its full height and may have six or seven arms. They may live to two hundred years old.

In this report I have talked about the part of a cactus, the different shapes and sizes. where they grow, the Saguaro Cactus and its life line.

Sample 6: Meets Expectations (high end)

Did you ever wonder How tall a cactus can grow? The answer is taller than a telephone pole. In this report, I will talk about a very tall cactus called the saguaro, the general appearence of cacti, which is the plural of cactus, where cacti live, and other cacti's sizes.

The appearence of many cacti are simular. Most have spines, that may be long, short, soft or sharp. Some spines are straight while others have hooked ends. Rather than the spines producing food for the cactus, the stem does. The stem also stores water. The stems have strong, waxy skins so water doesn't evaporate.

The cactus gets water from it's roots. The roots of a cactus are covered with cork. A cacti's roots are long and grow near the top of the ground. The roots are so close to the ground's surface they can get water form the tiniest rainfall.

Cacti also have fruits and flowers. A cacti's colourful, or white flowers bloom after it rains. Some cacti even produce fruit that is edible for humans and animals. Many people use the fruit to make jams and jellies.

Cacti grow in both South and North America. Most grow in hot and dry areas, but some grow in rain forests or mountains. Their is over 200 types of cacti and most are xerophytes which are plants that can live without much water.

Small cacti can be less than 2.5 cm tall. The small species may look like starfish or blades of grass. The saguaro cactus may grow taller than a house.

The saguaro cactus is the largest cactus in North America, but it only grows in the Sonara Desert. The saguaro can be as tall as telephone pole and hold up to a ton of water. Hawks, woodpeckers, and insects live in the folds of the saguaro skin. During a rainfall the fold grow bigger.

The saguaro is only 1 centemetre tall when it's 2 years old and 1 meter tall when it's 25 years old. By the time it is 150 years old it has finally reached its full height and has 6 or 7 arms. The saguaro may live up to 250 years old.

The saguaro's flowers bloom in May. They are white and waxy with yellow centers and grow at the top of the cactus and on the arms. When the flowers open at night the smell attracts bees, birds and bats who spread the pollen. Five weeks later green fruit begans to grow at the base of the flowers. When it is ripe it bursts open revealing that inside it is juicy and red with black seeds. Native Americans collect the fruit in June to make jam and candy. Coyotes, birds, and packrats may also eat the fruit. When the animals eat the fruit, they drop the seeds. Each one of the fruits has over 2000 seeds. That is one of the ways seeds spread and new saguaros grow.

I hope you have learned alot about cacti and saguaros. In this report I have talked about the General appearence of cacti, where cacti grow, their size, the saguaro's special features and growing patterns and, the saguaro's fruit and its flowers.

Appendix O

Samples of Independent Reports and Their Holistic Ratings

Sample 1: Minimally Meets Expectations (low end)

Owls

My report is on a comparison of Elf Owls and Barn Owls.

Elf Owls

Appearance:

The elf owl is the smallest owl in the world. The elf owl's 5 to 6 inches long. The elf owl is 1.4 ounces. It's wing span is 14 to 15 inches wide. The elf owl has yellow eyes, short tail and is buff in colour. The elf owl does not have any ear tufts.

Prey:

The elf owl may be small, but it eats large insects. It eats spiders, scorpion and small reptiles. The elf owl is an nocturnal animal.

Habitat:

Elf owls live and breed in three places: Lower California, Arizona, and Texas. Elf owls live in abandoned Woodpecker holes in cactus or an oak, pine, or other tree. The elf owl migrates from the United States to Mexico in the Winter.

Communication:

The elf owl has a high pitch hoot that is used to communicate with other elf owls. When elf owls are in danger, they play dead.

Breeding:

Female elf owls lay 3 to 4 white eggs in April and May. Female Elf incubates the eggs for 24 days. After they hatch, female owl will feed them for about 15 weeks and then they have to hunt for themselves. Female owl will leave the eggs for the male to incubate at dusk so that she may hunt.

Barn Owls

Appearance

Barn Owls are medium size owls. It is 15 to 20 inches in height. It has long feathery legs. It's wing span is 40 to 45 inches wide. It is mostly white with buff, yellow and tawny shadings. other names of the barn owl are Golden Owl, Monkey Face, and White Owl. The Barn Owl has no ear tuffs. Its face is heart shaped with small dark eyes.

Prey:

The Barn owl usually eats mice, gophers, rats and sometimes in the winter small birds. It hunts for its food at night. The barn owl is more nocturnal than other owls. It waits until it is very dark to hunt.

Habitat:

Barns Owls live in old abandoned buildings, in hollow trees, or a hole in a rocky cliff. They stay there during the day.

Breeding:

Barn owls lay eggs anywhere. Barn owls make no effort to build or line a nest. The

Female lays 5 to 7 white eggs. It takes 32 to 34 days to incubate the eggs. The owlets have snow white down for 6 days. Owlets are hungry all the time. Both parents are busy night and day feeding them. At 7 1/2 weeks they take their first hunting and flying lesson.
Communication:

Barn owls make a loud rasping hiss and not a hoot like other owls.
Conclusion:

Elf owls and Barn Owls are mostly the same. Elf owls are smaller and eat smaller things. Barn owls are larger and eat larger animals. They both do not have ear tuffs and thy have a heart shaped face. Barn owls have a rasp hiss and elf owls have a high pitched hoot.

I think owls are very interesting birds. My favourite owls are the Elf owl and the Barn owl.

Sample 2: Minimally meets expectations (high end)

If horses are your thing I hope this would intrest you. This report you will hear about Mustangs. You will also hear about the symbol, relitives, and changse in the land and much more.
Mustangs:

Mustangs, what are they? They are a wild horse. Not very many people have an opportunity to see a beautiful mustang because they live in the mountains and the desert. Mustangs will also live in remote places of the United States.
Extintion:

The beautiful animal was almost gone! People thought the mustang was not native to the land. So it denied protection laws. In the 1800's, an estimated 2 million mustangs lived in the United States. In 1968 there was only 17 thousand mustangs left. People feared they would be extinct. After twelve years a law came to protect the mustangs. This act was called the Wild Horse and Burro Act. Any one who harmed or killed the mustang would be punished. 10 thousand mustangs could be counted in eleven of the states after the law was enforced.

Still there was law breakers who killed the horse. There was other people who would sell the horses at auctions. The buyer could do with it as they pleased. The law of saving the mustangs was being ignored
Evolution:

Eohippus is what the mustang evolved from. It was the size of a house with four toes. In rock layers fossils. As time went on the Eohippus evolved into the mustangs. The Early horse fossils prove the Early horse lived in North america. When Columbus came to see horses Columbus didn't see horse but horse were not extint. The horses crossed a land bridge that conected Siberia and Alaska. The Early horse evolve into the mustangs.
Saving horses:

People are trying to save the mustang. By creating a new laws to help save it. They work to renforce the New laws. Horse parcks have been set up to help the horses and keep it from harm.
Symbols:

The mustang is a symbol for Ameircan ideals. The mustang stands for beauty spirit and freedom. You might not be able to see this horse in the wild western plains but you can know

that the mustang still lives in America
Changes in the land:

Millions of years ago the enviormnent and climate began to change the horse. When people started to tame and breed the horse it had the greatest influence in the horse story. Unanswered questions still remain of the horse. Scientists can show how the horse spread out across the land. As climates changed species of animals appeared and disappered. The fittest and adaptable dindn't disapper. Then people came. They started to tame and ride the horse that nature has created talented and tough enough for the animal Kindom.
Relitives:

The mustang and it relitives belong to group called the Equus. The horse has a single toed hoof on each leg. This hoof makes it easy to identify. Some relitives to the horse are zebras donkeys and mules

You have just read my report on the mighty mustang. I hope you enjoyed it. I also hope you learned something about mustangs.

Sample 3: Fully Meets Expectations

This report will be on the Bermuda Triangle. In it I will be writing about where the Bermuda triangle is located, disappearences in the Triangle, and explainations for the disappearences.

The Bermuda Triangle covers hundreds of miles of the Atlantic Ocean. The boundries stretch from the island of Bermuda to Florida and then to the West Indies.

It is believed that the Bermuda Triangle has strange and mysterious powers. In all, over 1000 people have disappeared in it's waters without a trace, though many planes, ships and the people inside have crossed safly. The Vagabond was a ship that did not cross safly. In July of 1969 the crew of a passing ship found the Vagabond. Everything was in place, but there was no sign of the crew. The last time the log book was written in was July 2, 1969, 4 days earlier than the ship was found. Missing ships and boats are usually found in the following categories: #1; the ship or boat is found, but there is no sign of the crew, and #2; there is no sign of the ship, boat, or the crew.

Alien Abduction is a theory in the Bermuda Triangle disappearences. Some people think the aircrafts, ships or the people inside them have been taken by aliens for investigations and experiments. Others believe that Atlantis is responsible. The theory of Atlantis came for a famous Bermuda Triangle author, Charles Berlitz. He and many others believe that Atlantis technology still exists and is shooting down the passing ships and boats. There is actually no proof that Atlantis actually existed.

Some believe that black holes are taking ships, aircrafts and the people, then transporting them to another universe or time. This theory was proposed by Vincent Gaddis.

Alot of people have had mysterious experiences in the Bermuda Triangle, but lived to tell. One of those people was Captain Don Henry. In 1966, his salvage tug was towing a barge, when he began to experience engine and electrical failures. He went onto the deck and saw the barge was invisable, but the tow rope still tight. After a while the barge reappeared and the engines began to work once again.

In 1974 the radar on a U.S. Coast Gaurd boat, called the Hollyhock, detected a large land mass in the waters of the Bermuda Triangle. The radar was examined and was working,

but as the boat moved towards it, the land mass disappeared.

In this report you have just read was on the Bermuda Triangle. In it I have talked about were the Bermuda Triangle is located, disappeaeances in the Triangle, and some explainations for the disappearences.

Sample 4: Fully Meets Expectations

Do you ever wonder what a comet is? If so you should read my report on comets. I will be talking about the parts of the comet, the orbit, their nickname and how they got them, and some other interesting facts. A comet is a head and a tail; and burns off gas whenever it's near the sun to form and get the tail.

The parts of the tail are very interesting in that the nucleus is made of ice, snow, rock, gases (mainly ammonia, methane and water vapour) and dust. The coma is the cloud around the nucleus. It is made of gases, dust, and water vapour. The Hydrogen Envelope of Hydrogen Cloud is made when the comet absorbs ultra violet light, a chemical processes lets go hydrogen which escapes the comet's gravity thus forming the Hydrogen Envelope or Hydrogen Cloud. The Ion tail is called a "Type I Tail" and is made mostly of gases giving off a blue colour pointing straight away from the sun. The Dust Tail is called a "Type II Tail" and is made mostly of dust and is often curved it is a yellow colour.

The comets orbit is of an elliptical shape. The longest comets orbit that is known to mankind is Comet Deavan ins 1914 came near the sun but then sped back into outer space not returning for another 24 million years! The shortest orbit known to mankind is the one of Encke's Comet and it returns to our area of the solar system around every 3.3 years.

Comets have three nicknames and they got them for the way they appeared in the sky; they are: "icy mud balls"
"dirty snowball"
"dirty iceberg"

Here are some interesting facts about comets and the solar system. The Oort Cloud is like a huge shell like object that the inside edge is 20 000 kilometres times away from the sun than the earth is and the outer edge is 100,000 kilometres times away from the sun than the earth. The sun melts and blows some of the gases away from it to form the "Type I Tail" (Ion Tail).

Discoverers of Comet Hale-Bopp and Halley's Comet. The discoverers of Comet Hale-Bopp are Alan Hale and Thomas Bopp. Thomas Bopp isn't even a professional astronomer; he was using his friend's telescope at the time of the discovery (he didn't own one!). Alan Hale was a serious amateur astronomer. Edmund Halley discovered Halley's comet. People thought that Halley's Comet was three different comets but Edmund Halley explained that they were one and in 1682 he predicted that it would come back into view in 1758 and he was right. But he died before he could see the comet again so the comet was named in his honour.

When someone discovers a comet they send an e-mail or telegram to the International Astronomical Union (IAU) in Cambridge, Massachusetts so they can find a name for it.

I have just talked about the Comet's parts, their orbit, their nicknames and how they got them and some other interesting facts about them. Than you for reading my report on Comets.