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THE EFFECTS OF STRATEGY INSTRUCTION ON THE READING COMPREHENSION ACHIEVEMENT OF JUNIOR SECONDARY SCHOOL STUDENTS

by

Trudy G. Mothus

B.Ed., The University of Victoria, 1984

THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF EDUCATION

in

COUNSELLING

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THE EFFECTS OF STRATEGY INSTRUCTION ON THE READING COMPREHENSION ACHIEVEMENT OF JUNIOR SECONDARY SCHOOL STUDENTS

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ABSTRACT

This study evaluated the effect of a strategy intervention to increase the reading comprehension of grade 8 students (n = 98) with reading disabilities in intact junior high school classes. The reading comprehension gains made by students in the Paraphrasing Strategy class (SIM) (Schumaker, Denton, & Deshler, 1984) were compared to a control group who participated in conventional learning assistance instruction (LA) and to a second control group who participated in no intervention other than regular inclusive placement (No-LA). The study also examines the role of reading disability in junior high school students achievement and relates both to work habits, absenteeism, and subject failure. The Stanford Diagnostic Reading Comprehension sub-Test (SDRCT) was used to evaluate reading achievement change scores from pretest to posttest. A one-way ANOVA on the change scores found that students participating in SIM increased their reading comprehension achievement scores significantly more than students in LA over the year. SIM students' mean reading comprehension gain was greater than one grade equivalent, indicating a net gain relative to age peers. Furthermore, there were non-significant trends for students in SIM to attend school more often and pass more subjects than students in learning assistance. Behaviour scores, calculated from work habit marks of the SIM, LA, and No-LA groups, were not significantly different. Differences in reading achievement gains for the SIM and LA groups are not attributed to absenteeism or behaviour. A multiple regression analysis found that significant predictors of failure to achieve in school were student behaviour, absenteeism, and SDRCT reading comprehension pretest scores. Eighty-eight percent of those students who scored below the 26th percentile on the SDRCT failed one or more subjects, suggesting that low scores on this test can be used as an indicator of risk for failure.

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CHAPTER ONE INTRODUCTION

Since the introduction of the term "learning disabilities" in the late 1960s many strategies and interventions have been attempted to assist students with learning disabilities to be successful in their school work as well as to encourage these students to attend and to stay in school. Learning assistance (LA), typically consisting of tutorial, remedial, or compensatory instructional practices, is the most commonly practiced intervention technique offered to students who are identified as learning disabled. In addition to the typical learning assistance instructional techniques, strategy instruction has been developed as an intervention to cope with a wide variety of learning problems students may exhibit in a school setting. Strategies, such as those created by the University of Kansas Institute for Research in Learning Disabilities, typically consist of a set of self-talk instructions the student learns and uses to complete a learning task. "Learning strategies are techniques, principles, or rules which enable a student to learn to solve problems and complete tasks independently" (Lenz, Schumaker, Deshler, & Beals, 1984). Derived from cognitive psychology, these strategy interventions have been developed (i.e., Palincsar & Brown, 1984; Deshler, Schumaker, Lenz, & Ellis, 1984) and implemented in laboratory and school environments to address difficulties students may display in social skills, communication skills, appropriate behaviour, study skills, writing skills, and reading comprehension.

Many students who display achievement difficulties in high school can be categorized as having learning disabilities (Hasazi, Johnson, Hasazi, Gordon, & Hull, 1989). Furthermore, research shows that many of the students who drop out of school fit into the learning disabled category (Bender, 1995; Deshler, Schumaker, & Lenz, 1984; Levin, Zigmond, & Birch, 1985; Mellard & Hazel, 1992; Tanner, Krahn, & Hartnagel, 1995). Those students who have a learning disability do not readily overcome their learning disability in adulthood thereby affecting their economic well-being as adults (Bender, 1995; Hallahan & Kauffman, 1982; Hasazi, Johnson, Hasazi, Gordon, & Hull, 1989; McCaul, Donaldson, Coladarci, & Davis, 1992; Mellard & Hazel, 1992; Tanner, Krahn, & Hartnagel, 1995; White, 1995). Therefore, to prevent high school dropout it becomes imperative to examine the nature of learning disabilities and how learning disabilities are managed and rectified in the high school setting.

Counseling Interventions for Learning Disabilities

Some of the most important student behaviours that high school counselors must deal with include refusal to work, academic failure, absenteeism, behaviour problems, and dropout or pushout from high school. Pushout from high school occurs when school staff no longer believe they can intervene and help a student to be successful or to achieve in school; they encourage the student to leave by transfer to another school, by quitting, or by dropping down to a low-track program. Common issues of low achieving students who are also poor readers and who may have learning disabilities include incomplete homework assignments, student failure of school subjects, absenteeism, behavioural discipline and dropout/dropdown behaviour. School counselors need to be cognizant of what a learning disability is and what effect it has on students.

Training of high school personnel can be very specialized. Many school counselors have little training in special education issues. As a consequence, poor reading ability is rarely noted or connected to learning disability at the high school level, especially since standardized testing may no longer be a common practice. In many cases a reading comprehension deficit is not recognized by high school teachers, counselors, or School Based Team members. Students with poor work habits, poor organizational skills, and low achievement are too often classified as lazy, unmotivated, alienated, or as having behaviour problems. Typical counseling interventions for these "behaviour problem students" are discussed in the literature review.

School staff must be aware of how common a reading comprehension deficit is and of its effects on school achievement and success. Some researchers have estimated that 90% of all students classified as learning disabled are reading disabled (Kaluger & Kolson, 1978; Levin, Zigmond, & Birch, 1985). A more recent study examining the relationship between reading disability and learning disability has not been found. Counselors need to be aware that most students who are classified as having learning disabilities are unable to read competently at grade level. Poor reading ability is likely to result in poor achievement and academic failure. School counselors also need to be aware of effective interventions that will address the problems mentioned above. Strategies instruction targeting a real reading problem may be a more effective way of helping these students than the traditional learning assistance approach. Knowledge of, understanding of, and empathy for students with learning disabilities are highly desirable qualities of a high school counselor (Weber, 1994).

Counselors must be able to recommend beneficial programming alternatives directed towards academic school success. With more knowledge of the issues of learning disabilities, the prime concern for counselors would not be to manage the behavioural difficulties exhibited by students with learning disabilities, but to make recommendations for successful school achievement. This, in turn, is expected to lead to behavioural change on the part of many students with learning disabilities. School success in the academic arena may lead to greater satisfaction at school, improved motivational aspects, improved behaviour, improved attendance, and ultimately career opportunities for students who need the academic background to obtain anything more than poorly paid, entry level, service and labour oriented jobs (Espin & Deno, 1993a; Hasazi, Johnson, Hasazi, Gordon, & Hull, 1989; White, 1992). To do this successfully any personnel working with low achieving, poor readers must be knowledgeable regarding the causes of, the characteristics of, and the interventions for students with learning disabilities (Espin & Deno, 1993a).

The Literature and Interventions for Learning Disabilities

Four different areas of research, each examining learning disability at the junior secondary level, its consequences, and recommended interventions, have important implications for counselor/teachers. These are the dropout literature, the counseling literature, the reading literature, and the learning disabilities literature. Discussion of these are given in the literature review. What is noticeable when a reader reads more than one type of research literature is that the four domains do not appear to interact very well and that the four explanatory frameworks do not appear to communicate with each other (Stanovich, 1990). In fact, each domain expresses its own views, not matched by the others, on the causes, characteristics, and interventions of learning disability. Attempts to check the consequences of school failure lead to a wide variety of interventions depending on which framework the professional accepts philosophically as an explanation for student behaviour, on which student behaviour is most troublesome to school staff, or on which theory regarding cause is in vogue.

To date, techniques for resolving learning disabilities have not been very successful. (Alley & Deshler, 1979; Cazden, 1986; Deshler, Ferrell & Kass, 1978; Deshler, Schumaker, Lenz & Ellis, 1984). The previous theories regarding the failure of students to achieve in high school have been reflected in the interventions of the past and present (Alley & Deshler, 1979; Bender, 1995; Hallahan & Kauffman, 1982; Deshler & Schumaker, 1993; Deshler, Schumaker, & Lenz, 1984; Palincsar & Brown, 1987; Schumaker, Alley, Warner, Deshler, 1980). Interventions, such as visual-perceptual training, have come and gone (Bender, 1995; Hallahan & Kauffman, 1982; Stanovich, 1982; Weber, 1994). Other interventions, such as inclusion with its demands for individualization, are on the way (Andrews & Lupart, 1993; Zigmond & Baker, 1996). Teachers in British Columbia usually refer students to a School Based Team, the counselor, or the learning assistant teacher when the student does not hand in homework, when the student has a behaviour problem, when the teacher realizes the student has difficulty with writing assignments, or when they realize the student has difficulty comprehending class assignments. The most common interventions at the junior high school level are currently directed at students with learning or reading disabilities who fail to complete homework and who have behavioural problems. These interventions can take a variety of formats.

The common interventions may include punishment, counseling, behaviour modification techniques, vocational/career preparation programs, survival skills programs, social skills training, wilderness/survival programs, removal from a school environment, learning assistance, or a combination of any of these. A recent national example of the different types of interventions that have been piloted in the last two years includes the <u>Stay-in-School Initiative</u> (Human Resources Development Canada, 1996) which describes many of the above interventions. Although the studies report success to varying degrees, few of these have reported empirical data demonstrating significant effectiveness in helping students become academically successful. Only four of the 59 <u>Stay-in-School Initiative</u> studies examine reading disability or reading improvement as factors in school achievement. Furthermore, counseling and parental participation in school meetings, two of the first interventions usually attempted, have been shown to be the least effective in changing student behaviours such as improved school marks or improved social interactions. The effects of these two interventions are reported to last two days (Deshler, Schumaker, Lenz & Ellis, 1984).

Research into effective interventions of learning disabilities is sparse at the high school level and settings (Bender, 1995; Deshler & Schumaker, 1993). Furthermore, interventions are typically attempted without knowledge of whether they address the problems of students with learning disabilities because by the time a student enters grade eight time is running out for the

student (Espin & Deno, 1993a). This lack of time makes tutorial and compensatory interventions, typically found in the junior high school learning assistance programs seem attractive (Deshler, Lowrey & Alley 1979). Rather than remediate the problem of reading disability, the tutorial, compensatory, remedial, interventions of learning assistance programs at the high school level attempt to help the student complete regular class assignments by compensating for or by-passing the reading and writing disability.

Learning assistance may use one, or a combination of four, commonly practiced models. These four models include the tutorial approach, the basic skill remediation approach, the compensatory approach, and the strategies intervention approach (SIM) (Alley & Deshler, 1979; Bender, 1995; Deshler, Schumaker, Lenz & Ellis, 1984, p.173; Hallahan & Kauffman, 1982). The approach used in a secondary learning assistance program tends to depend on the background (elementary or secondary) and training of the learning assistance teacher (Deshler, Schumaker, Lenz & Ellis, 1984). The four models are briefly described below.

The Tutorial Approach

Within the tutorial approach, the student obtains help from the learning assistance teacher to complete the requirements of the core curriculum (English, Social Studies, Science, or Math). The learning assistance teacher's goal is to help the student complete the class assignments and to pass the tests of the regular courses. The ultimate goal is a "Dogwood certificate," as official indication of graduation from a British Columbia secondary school. Tutoring addresses the immediate problem of the classroom: completing of homework and passing of tests. The student is taught <u>what</u> to learn (Deshler, Schumaker, & Lenz, 1984).

The Basic Skill Remediation Approach

Within the basic skill remediation approach, the student obtains extra work from the learning assistance teacher in order to remedy deficiencies in foundational skills that are necessary for grade level learning. Basic skill remediation may include lessons in spelling, grammar, punctuation, or math facts and processes. These foundational skills may consist of information normally taught at the elementary school level. Basic skill remediation of reading is less common at the secondary school level. Many high school teachers argue that they don't know how to teach reading; neither is teaching reading perceived to be their job. There may be little connection between the content of the skill remediation curriculum and the curriculum of the regular

classroom. The student is taught <u>what</u> to learn (Deshler, Schumaker, & Lenz, 1984). <u>The Compensatory Approach</u>

The compensatory approach includes the use of modifications and diverse formats to present information to the students. For example, some compensatory methods used to deliver subject content include audiotaping of lessons and books, oral testing, and controlled reading levels on tests. Alternately, charts with simplified data from the texts, or study sheets containing vocabulary from the texts may be employed separately or in combination with the other methods. The goal of this approach is to help the student with learning disability to obtain the required knowledge and subject content to pass exams. Most of this subject knowledge at the high school level is declarative in nature. The student is taught <u>what</u> to learn (Deshler, Schumaker, & Lenz, 1984).

The Strategies Intervention Approach

The fourth approach, Strategies Intervention (SIM), is a more recent and a less commonly used approach in learning assistance. It is based on the theory that students with learning disabilities may have information processing difficulties. They are also believed to be strategy deficient. That is, they do not create or use appropriate strategies spontaneously to process information to cope with problems they encounter (Alley & Deshler, 1979; Deshler, Schumaker, Lenz, & Ellis, 1984, p. 173; Shaw, Cullen, McGuire, & Brinckerhoff, 1995; Palincsar & Brown, 1987; Torgesen, 1988a, 1988b). There are two reasons why students may have difficulty with comprehension (Chall, Jacobs, & Baldwin, 1990). One is the difficulty many display with morphophonemic and graphophonemic word decoding/ recognition. Included in this is the inability to phonologically segment, analyze, and make use of the written text. This leads to word-level processing deficits. The effort spent in decoding words depletes the cognitive capacity to comprehend the text (Stanovich, 1980, 1982a. 1982b). A "Word Identification Strategy" is available for these students (Lenz, Schumaker, Deshler, & Beal, 1984).

The second reason that students may have difficulty with comprehension is that they may be lacking in strategies leading to comprehension and meaning. These include anything that facilitates the memory such as mnemonics, verbal rehearsal, comprehension monitoring, text scanning, question asking, self-questioning, imagery, attentional and motivational strategies. Poor readers may be passive readers and listeners who tend not to use these comprehension extending

devices. Both of these reasons together may play a part in the poor comprehension skills of students with learning disabilities. "Untangling the proportion of variance in memory performance that is due to each of these general factors will be difficult (since, for example, strategies such as verbal rehearsal may be difficult to separate from phonological coding processes), but it will be theoretically and practically worthwhile" (Stanovich, 1988b, p. 550).

The emphasis of the Strategy Intervention Model (SIM) is on teaching students <u>how</u> to learn as opposed to <u>what</u> to learn (Deshler, Alley, Warner, & Schumaker, 1981). In contrast to the tutorial, remedial, and compensatory approaches, the desired outcome of strategy intervention is not necessarily to gain more knowledge but to be able to access, comprehend, and present written knowledge when it is desired or needed. For example, during instruction in the Paraphrasing Strategy, students learn <u>how</u> to acquire, retrieve, manipulate, store, remember and express academic content information (Alley & Deshler, 1979, p. 13; Deshler, Alley, Warner, & Schumaker, 1981, p. 415; Deshler, Schumaker, Lenz, & Ellis, 1984, p. 173). For this reason, the Strategy Intervention Model (SIM) Paraphrasing Strategy may play an important role in continuing the process of reading development in junior high school students.

There are a number of strategy models explained and researched in the literature. An example of a strategy from the Strategies Intervention Model (SIM) curriculum is the three-step Paraphrasing Strategy of Denton, Deshler and Schumaker (1984), a strategy designed to assist students to increase the comprehension of textual reading materials. The teaching of the three-step RAP acronym of the Paraphrasing Strategy (Read a paragraph; Ask what is the main idea and important details; Put the main ideas and details in your own words) is based on the assumption that explicit comprehension strategies can be taught using direct teaching methods to enhance poor readers' comprehension. The instructional goal of the strategy is to increase the students' engagement and interaction with the high school textual materials and to teach reading disabled students a method to improve reading comprehension of material that is written beyond their independent reading level. The authors claim that the Paraphrasing Strategy fosters active learning and understanding of textual materials in the subject areas. By improving reading comprehension through the use of the Paraphrasing Strategy, and learning how to read to understand, students can cope more efficiently with regular, written, curricular content. They can then participate in mainstream classes by gaining knowledge from the complex written materials teachers hand out to

them. Denton et al (1984) suggest the Paraphrasing Strategy will be effective for students with deficits in reading comprehension because it is designed to encourage students to participate actively in the reading for meaning process.

The Evaluation of Interventions

Comparative research into the efficacy of other approaches to learning assistance and the strategy interventions is not extensive; therefore, comparisons of the success of individual interventions is difficult. For example, I have been unable to locate any studies employed at the junior high school level investigating the efficacy of the Paraphrasing Strategy (Schumaker, Denton, & Deshler, 1984). In their review, Deschler and Schumaker (1993) report on only one study that intervened in reading comprehension ability and that research employed the Multipass Strategy (Schumaker, Deshler, Alley, Warner, & Denton, 1982). The Multipass Strategy was one of the earliest strategy interventions developed and used several repeated reading passes through a literary passage to gain comprehension. Furthermore, several researchers have pointed out that broad-based studies evaluating learning assistance programs as an intervention approach at the junior high school level are virtually non-existent (Baker & Zigmond, 1995; Clark, 1993; Deshler, Schumaker, Lenz, & Ellis, 1984; Schumaker & Deshler, 1988).

Evaluation should be a necessary component of any curriculum and programming decisions for adolescents with learning disabilities (Baker & Zigmond, 1995; Bender, 1995; Deshler, Schumaker, Lenz, & Ellis, 1984; Deshler and Schumaker, 1993; Goodlad, 1984; Torgesen, 1988a). Pelosi (1981) and Deshler et al (1984) noted that there were few empirical studies assessing the effectiveness of interventions for adolescents with learning disabilities, especially of those interventions that commonly take place in learning assistance. This finding has been reiterated more recently by Baker and Zigmond, (1995), Clark (1993), Knight (1993) Bender (1995) and Palincsar and Brown, (1987). There is an urgent need for empirical research on the efficacy of learning assistance intervention programs so that they can be refined or changed with sound reason (Pelosi, 1981; Schumaker, Alley, Warner, & Deshler, 1980; Schumaker & Deshler, 1988). To this researcher's knowledge, no empirical evaluation of the effectiveness of learning assistance programs in this school district under study has been carried out. Goodlad (1984) comments that schools simply do not keep data and information that could lead to appropriate

school evaluation and improvement of intervention programs. At the school level, programs and curricular innovations seem to come and go, accepted and rejected by classroom teachers through experiential or intuitive judgement, without sound basis in empirical research (Froese, 1990; Wilson & McLaughlin, 1986). Attitudes and opinions drive changes in programs and facilities (Wilson & McLaughlin, 1986). Little empirical data is kept, analyzed, or disseminated at individual schools or within school districts. There is a limited sharing of information regarding the type of learning assistance programs that are most beneficial to the school success of students with learning disabilities. And, there is little agreement on what works to assist students with learning disabilities academically or what kind of educational/life goals they should strive for (Alley & Deshler, 1979; Bender, 1995; Hallahan & Kauffman, 1982; Deshler, Schumaker, Lenz & Ellis, 1984).

As a consequence, there is little empirical data available to examine whether the money and human energy spent on students with learning or reading disabilities has been used wisely to resolve some of the achievement, motivational, and behavioural problems encountered by these students and that will, by addressing the causal problem, help to prevent achievement failure and dropout. The literature review which follows will develop some of the issues mentioned above.

CHAPTER TWO REVIEW OF THE LITERATURE

Four areas of research literature inform our understanding of students with learning/reading disabilities. These include the dropout literature, the counseling literature, the learning disabilities literature, and the reading literature. The dropout literature typically correlates at-risk behaviour of high school students with low achievement, poor attendance, and failure to succeed. The counseling literature typically correlates at-risk behaviour with poor self-esteem/self-worth, alienation from school, poor motivation, and environmental problems. The learning disabilities literature has struggled for 30 years, and continues to struggle, to establish a causal definition and related interventions for learning disability. Due to disagreement in the field of learning disabilities --its causes and appropriate interventions for learning disabilities — the literature is quite diverse in nature. The reading literature typically correlates reading disability with environmental (home) and within- student factors.

Lack of knowledge on the part of counselors (who may not read the special education literature) about the recognition of, causes of, and effective treatments for learning or reading disability leads to interventions based on incomplete information that may not be most appropriate for many students with learning disabilities. The search of a wider research literature domain to examine the interrelated variables of learning disability is expected to lead to more effective interventions. I would argue that many of the factors leading to school failure are interrelated and perhaps inextricably intertwined but that some factors account for greater variance than others. To be effective counseling practitioners, it behooves us to be cognizant of a wider literature.

This literature review of empirical studies is organized to examine the four types of literature mentioned above as they relate to: dropout behaviour and learning disabilities; typical counseling interventions to combat dropout behaviour; absenteeism and its relationship to dropout behaviour; school failure of students who are at risk for dropping out; the prevalence of reading disability and its consequences for successful schooling; the use of learning assistance and strategies instruction as interventions, and the predictive use of standardized reading comprehension achievement scores. The literature review will highlight important aspects of the research literature with a critical analysis of the studies reviewed.

The Dropout Literature

Dropout Rates

Dropout rate is difficult to compute because of differing definitions of what constitutes dropout (MacMillan, Widaman, Balow, Borthwick-Duffy, Hendrick, & Hemsley, 1992; Tanner, Krahn, & Hartnagel, 1995). For example, missing from most dropout estimates is the ability to determine how many students drop out then drop back in and how often this occurs (Blackorby, Edgar, & Kortering, 1991; McCaul, Donaldson, Coladarci, & Davis, 1992; Tanner, Krahn, & Hartnagel, 1995). In addition, any students who do not graduate with a diploma are considered dropouts even if they stay in school and complete an alternate program. In the British Columbia system, students may participate in a graduation ceremony with age peers without completing the academic course requirements needed for a "Dogwood" credential. Therefore, special needs students with learning disabilities, who may graduate with a school leaving certificate after having spent 12 years in school, are counted as dropouts by these researchers (MacMillan, Widaman, Balow, Borthwick-Duffy, & Hemsley, 1992).

School programs in British Columbia do not track dropouts and pushouts unless students are under 16 years of age. In this case, students must indicate a program they are going to, such as the provincial correspondence school, but the exiting school does not follow up on students' actual attendance at these receiving schools. "Out-of-schoolers" at the correspondence school are defined as those students between ages 15 and 19 who for a variety of reasons, usually behavioural, are not welcome back at their home schools. The success rate of "out-of-schoolers" (as compared to "full-graders" - those who use correspondence schooling for their complete schooling) passing a single subject at the correspondence school is estimated to be 16%. Of approximately 800 out-ofschoolers in the school district zone, 29% don't start the first of seven papers of the first of three correspondence modules. Most of the out-of-schoolers start but don't finish the first module (seven papers) of the correspondence package. Pre-testing of applicants to the correspondence school is not a common practice. As a result it is impossible to say how many of the 40-50 "outof-schoolers" who came to the correspondence school in 1995-96 through, for example, the district level Student Conduct Review Committee, are also learning, reading, and writing disabled (George Harris, personal communication, July 19, 1996). It is not known how many of these students eventually enter adult education programs or college as adult students.

The study of dropout rates for students with learning disabilities most often cited is that of Levin, Zigmond, and Birch, (1985) who estimate that 51% of learning disabled students drop out of school and do not graduate. If, according to my estimate (based on my experience as a teacher of special education and counseling) 30% of all students may be learning/reading/writing disabled, then 15% of all students drop out due to a learning/reading/writing disability. This 30% figure is based on a cut score on the Stanford Diagnostic Reading Comprehension sub-Test (SDRCT) (Karlsen, Madden, & Gardner, (1976) at the 39th percentile. Bender (1995) estimates that this rate is actually conservative and predicts that dropout rates in schools without special programs may be higher. In a retrospective study of Washington State adult graduates and dropouts, Blackorby, Edgar, and Kortering, (1991) found that 40% of students labelled learning disabled had not graduated. There may be more students with learning disabilities who have not been labelled as such. To further support these data, Hasazi, Johnson, Hasazi, Gordon, and Hull (1989), in a longitudinal study of Vermont students, found that 36% of students with handicaps left or dropped out of school before graduation. In addition, 13% of the students with handicaps left school at ages 15-16 and 20% exited between ages 20-22. Hasazi et al do not indicate what type of handicapping conditions tended to leave at these ages but learning disabilities made up 64% of the total students in the study.

McCaul, Donaldson, Coladarci, and Davis, (1992) used the grade ten data from the U.S. <u>High School and Beyond</u> data base of 600 dropouts and of 2000 graduates who did not continue in post-secondary education to investigate what had happened to dropouts by four years after graduation year (1982). First, they found that approximately 50% of these grade ten dropouts had actually completed a diploma or equivalency certificate, or were enrolled in an equivalency program by the time of the study, four years later. Second, they found that dropouts had significantly lower achievement scores than the graduates who did not continue their schooling after graduation. Although the overall dropout rate using the <u>High School and Beyond</u> data is estimated to be about 14% it does not take into account those students who may have quit school before grade ten. These pre-grade ten students, who are unaccounted for, may actually represent those students with more chronic learning, reading, and writing difficulties.

Sharman (1990) investigated the influence of semestered schooling compared to traditional year-long programming on 4800 grade ten students in Ontario schools. In addition to concluding

that semestered schooling produced fewer dropouts, he reported some additional information that is of interest to this study. Sharman found that the percentage of dropouts of students in general education programs was higher than the dropout of students in either advanced-level or basic-level classes. Basic-level students are those who have dropped down and are in survival skills/career education programs. The dropout rate for the basic-level students was 8.6% in semestered schools and 21.1% in traditional schools. In contrast, the dropout rate of general education students in semestered schools was 14.0% and in traditionally structured schools was 17.7%. The dropout rate for advanced level students, those who can meet the requirements of school by listening, reading and writing well, averaged 4% for both types of school structures with almost no variation between the two types. What is significant about these data is that there may be a large number of students who might be learning, reading, and writing disabled in the general programs who continue to go unidentified and eventually drop out. The basic-level classes seemed to perform better at catching potential dropouts and holding them than general education classes did. Sharman did not indicate what criteria were used to drop students into basic-level classes. The population in the basic-level classes constituted about 5% of the total grade ten population. As with the previous studies, the dropout rates of grade seven, eight, and nine students was not addressed by this study.

A measure of a successful special education program is its ability to hold students in school via a reduction of in-school failure and consequent dropout (Bartnick & Parkay, 1991). Bartnick and Parkay (1991) report on an ex post facto study of 96,116 students in a Southeastern US school district and the holding power of the Specific Learning Disabilities (SLD) program for grade ten students (n = 380) in that district. The variables of reading ability, math ability, age, sex and race were entered in the multiple regression analysis. They report that 11.3% of Specific Learning Disabilities (SLD) students between 1986-1987 dropped out of SLD programs compared to 6.3% of students in general education programs. They draw causal rather than correlational conclusions. In contrast to the study of Sharman, (1990) Bartnick and Parkay conclude that SLD programs are not as effective in holding students as the general program. This conclusion could result in some false assumptions leading to the notion that SLD programs should be cancelled in favour of inclusion and mainstreaming. Their conclusion does not take into account the various factors, in addition to curriculum and programming, that may affect participation in SLD programs and that

lead to dropout from the SLD program. In addition, drawing conclusions about program options is difficult since Bartnick and Parkay do not discuss what student criteria lead to participation in the SLD programs or the curricular content of the SLD programs. Reading and writing knowledge are not addressed. They have not included information on what might make these programs more or less successful. One of the important factors to be considered in the study of successful intervention programs is the curricular content of these programs. Presumably, students will fail less often, will be absent less often, and will drop out less often if they experience curricula that meet their needs for real-life knowledge and if they experience a measure of success in the learning assistance programs. However, generalization from southern US schools to BC schools is questionable. Furthermore, none of the above studies have addressed grade eight and nine students who may have already dropped out (and possibly back in) thereby increasing the reported dropout rate reported in the studies.

Dropout Causes and Interventions.

In the dropout literature, the student with learning disabilities is characteristically defined by low school achievement, low self-esteem, poor social skills, deficient cognitive/academic skills, socio-behavioural problems, alienation from school, and dropout from school (Bender, 1995; Deshler, Schumaker & Lenz, 1984; Hallahan & Kauffman, 1982; Shaw, Cullen, McGuire, & Brinckerhoff, 1995; Tanner, Krahn & Hartnagel, 1995; Weber, 1994). Poor achievement is usually at the top of the list of reasons for failure and dropout. Those studies that examine causes of poor achievement usually regard a characteristic of the student such as a cognitive impairment (Stanovich, 1988), behavioural difficulties (Schumaker, Alley, Warner, & Deshler, 1980), socioeconomic factors, or student-related variables as prime factors in low achievement (Soodak & Podell, 1994). Far fewer studies have attributed low achievement to educationally based causes such as school structure, teaching techniques, or curricula (Ellis, 1994; Goodlad, 1984; Soodak & Podell, 1994; Tanner, Krahn, & Hartnagel, 1995; Wehlage & Rutter, 1986). Researchers agree, however, that no one of the above characteristics is solely accountable for defining a learning disability. An interelational view, where all the identified characteristics affect each other, has generally been accepted (Bender, 1995; Schumaker, Alley, Warner, & Deshler, 1980, Torgesen, 1988).

Most interventions identified in the dropout literature have centered on the attempt to change

the behavioural characteristics of students with learning disabilities (Blackorby, Edgar, & Kortering, 1991) such as self-esteem (Ciborowski, 1995 p. 91), socio-behavioural problems (Hazel, Schumaker, Sherman, & Sheldon, 1982); social interaction difficulties (Schumaker, Wildgen, Sherman, 1982), absenteeism (Baker, 1990), and lack of school achievement (Shaw, Cullen, McGuire, & Brinckerhoff, 1995). Methods used to induce change in student behaviour have included counseling, behaviour modification techniques, peer tutoring, cooperative learning, attribution training, biofeedback and relaxation training, as well as unsupported treatments such as visual-perceptual training, multisensory instructional approaches, neurological reorganization, biochemical approaches and chiropractic interventions (Bender, 1995).

Studies of these interventions show, at best, modest degrees of success in improving behavioural variables in the life of the student with learning/reading/ writing disabilities (Bender, 1995; Deshler, Schumaker, & Lenz, 1984, p. 110; Hallahan & Kauffman, 1982). For example, Baker (1993) reported some success with a school based team format whose task it was to propose interventions for potential dropouts. Fifty-five percent of the 70 potential grade nine dropout students addressed by a School Based Team in this study were in school a year later. Fifty-five percent retention or holding power of grade nine at-risk students does not appear to be an effective success rate. Baker does not report the time of year the students were counted. Time of year, as well as other variables such as school structure (see for example Sharman, 1990), may have a significant impact on the accuracy of attendance and retention of those students who will drop out. As indicated previously, interventions such as counseling and parental participation, both commonly recommended by School Based Teams to encourage behavioural change, have little impact on behavioural change.

Cognitive/academic traits and low achievement are recognized to play a larger role in identifying a learning disability and prospective dropout than do the other factors such as sociobehavioural skills (Barrington & Hendricks, 1989; Bender, 1995; Schumaker, Alley, Warner, & Deshler, 1980). Poor achievement of students is most commonly listed in the dropout literature as one of the major reasons of school failure (Barrington & Hendricks, 1989; Shaw, Cullen, McGuire, & Brinckerhoff, 1995) and Hallahan and Kauffman (1982) call poor academic achievement the "hallmark" of learning disabilities (p. 115). Nevertheless, few dropout studies take the next step of defining what poor achievement consists of or what might cause it. For an exception, see Barrington and Hendricks (1989) who define it as low grade point average scores or the quantity of subjects failed in school. Since the dropout literature typically tends to examine the behavioural components of student's low achievement and alienation from school, for example truancy, the dropout literature does not reference the definitions of learning disability. Despite the acknowledged relationships between learning disabilities (characterized, in part, by poor reading and writing), low school achievement, and dropout, none of the 69 dropout literature studies reviewed by this researcher specifically identify poor reading and writing skills as a key component in poor achievement. Nor do any of these studies specifically link reading and writing disabilities to school dropout, or examine how techniques for teaching reading comprehension and writing, especially to students with learning disabilities, might be related to greater achievement in high school. It would be useful for those using the dropout literature to examine the at-risk behaviour and the suggested causes of learning disability in the learning disabilities and reading literature.

The Counseling Literature and Counseling Interventions

When a student is brought before the School Based Team to consider intervention, two of the first interventions typically suggested are those of counseling and parental involvement. Soodak and Podell (1994), in a study of recommended interventions for learning difficulties, note that 78% of all teachers would recommend parental involvement to effect change in a student. As noted previously, these most often tried interventions, recommended by School Based Teams, certainly have little impact (Deshler, Schumaker, Lenz, & Ellis, 1984). Counselors recognize that factors such as absenteeism, poor grades and achievement, and alienation from school, contribute to school dropout (Bearden, Spencer, & Moracco, 1989; Blum & Jones, 1993). Therefore, it is important to use a successful intervention related to these factors.

The counseling literature is replete with suggestions and recommendations to remediate school and behavioural failure. A journal such as <u>The School Counselor</u> is representative of the attitudes of counselors towards students who fail and the interventions counselors would use to prevent at-risk behaviour. In my review of the last 15 years of the journal, counselors were generally exhorted to intervene in the following ways: improvement of interpersonal relationships, social skills training, extra-curricular activities, peer support groups, peer tutoring, mentoring, assertiveness training, communication skills training, stress reduction training,

motivational and skills training, higher expectations especially of achievement, improvement of school climate, daily conduct reports, enforcement of attendance, work-study programs, study skills, survival skills, parent training, parent involvement, family therapy, social services, development of positive attitudes, and recognition of the worth of all individuals (Bearden, Spencer, & Moracco, 1989; Blum & Jones, 1993; Blumberg, 1986; Downing & Harrison, 1990; Larsen & Shertzer, 1987; Little & Thompson, 1983; Monroe, Borzi, & Burrell, 1992; Pierce, 1994; Praport, 1993; Rose-Gold, 1991). Few of the journal articles espousing these interventions are empirical in nature. Larsen and Shertzer (1987) and Praport (1993) perhaps represent the views of most counselors in emphasizing that the first goal of counselors should be to address the issues of self-confidence and self-worth.

It has been generally accepted by counselors that self-esteem and achievement are correlated. However, the direction of the relationship has not been established in the literature. Beliefs regarding whether self-esteem affects achievement or whether achievement affects selfesteem (Gorrel, 1990; McWhirter, McWhirter, McWhirter, McWhirter, 1993) have determined the types of interventions counselors have attempted to change student success in school. Most counselors practice a nomothetic model of counseling. That is, it is believed that success in one global domain will generalize into success in another domain -- or, a cup of tea is good for whatever ails you. Therefore counselors may address academic performance issues with practices such as individual counseling to persuade students to change, instruction in self-concept enhancement, and extra-curricular activities, without addressing the actual academic success and a strategy for enhancing it (Strein, 1993). Direct instruction of self-esteem issues have been popular in the belief that a change in self-esteem will change academic behaviour. An examination of a publisher's catalog such as that of J. Weston Walch Publishing Company (specifically for students with learning disabilities) makes it readily apparent how important self-esteem instruction is perceived to be. An example of this curricular material, used with at-risk students, is that of Canfield and Wells (1976), 100 Ways to Enhance Self-Concept in the Classroom. Exemplifying the belief of many counselors, Canfield and Wells state in this work their belief that "children with low (poor) self-concepts do not learn to read or did not read as well as children with high (good) self-concepts" (p. 4).

In contrast to the views described above, Strein (1993) and McWhirter, McWhirter,

McWhirter, McWhirter, (1993) argue that self-concept is domain specific, therefore, a domain specific intervention is needed to create academic self-concept and success; this includes skill training to remediate underachievement. In support of this notion, a number of studies have examined the relationship between self-concept and academic achievement.

Fine and Rosenberg (1983) studied the self-esteem of young people with learning disabilities once they drop out of high school. It has been found that these young peoples' self-esteem is similar to that of high school graduates. In fact, once they leave school their self-esteem may go up (Fine & Rosenberg, 1983; Garrison, 1983; McCaul, Donaldson, Coladarci, & Davis, 1992). Fine and Rosenberg identified their subjects as academically and intellectually above average. Therefore, it might be assumed, based on an intelligence/performance discrepancy definition of learning disabilities, that they were not learning disabled but perhaps disaffected, alienated students who had behaviour problems related to other life factors rather than to learning disabilities. However, Levin, Zigmond, and Birch (1985) found that the 52 grade nine students in their study exhibited normal self-concept scores both at pretest and posttest time as rated on the Piers-Harris Self-Concept Scale. The students demonstrated no significant difference regardless of which of three groups they belonged to: in regular education, in special education, or dropouts. In contrast, Garrison (1983) found that dropout was influenced by environmental factors as opposed to ego-sustaining, self-concept factors.

Pottebaum, Keith, and Ehly (1986) studied the self-concept and achievement of 72 randomly selected students from the <u>High School and Beyond</u> database to determine the presence and direction of a causal relationship between self-concept and achievement. They concluded that there is no significant causal relationship between the two variables but that instead there is a third as yet unidentified variable; they suggest social class and/or ability. Pottebaum et al speculate that there may be a cyclical relationship between self-concept and achievement or that the magnitude of the effect may be small. They conclude that educators should not attempt to improve academic success through the development of self-concept. This study might not generalize to grade eight student self-concept assessment because the <u>High School and Beyond</u> database includes only data on grade ten students. By the time students reach grade ten a number of students who could have been identified as low in achievement and low in self-esteem may have already dropped out of school. Only the average and higher functioning students or those with self-esteem based on

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variables other than achievement may be left in grade ten. To use grade ten data to collect information on the variables examined in this study may be too late.

Goodlad (1984) discusses some variables related to self-esteem that expands the work of Pottebaum, Keith, and Ehly, (1986). Goodlad (1984) has noted that the issues of prime concern to young adolescents include physical appearance, peer relationships, and the expression of self through extra-curricular activities (see also Stipek, 1993). Academics come in a poor fourth. This is expressed in the fact that students most favour those subjects that allow for peer interaction: vocational/applied skills classes, fine arts classes, physical education. Self-esteem to a large extent may be based on success in these arenas and on peer relationships rather than on academic success, especially if a student has a learning disability.

In contrast to the work of Pottebaum et al (1986), Kaplan, Peck, and Kaplan (1994) explored a causal relationship between self-esteem and achievement and found a strong link between early school failure, leading to self-rejection in the school environment, leading to deviance, which influenced academic failure. Students avoid further self-rejection by withdrawing effort in school and questioning the value of school. Kaplan et al speculate it is safer to maintain intrinsic worth by self-talk such as that of not having tried hard enough in contrast to attributing poor performance to a lack of ability, as students may perceive themselves as having no control over ability. Their recommended interventions include early intervention, planning regular school and remediation programs, participating in self-enhancing experiences and self-esteem enhancement. The antecedent to academic failure has not been determined in this study. Trusty and Dooley-Dinkey (1993) report similar results in a study of school alienation. They found that reading and math achievement at the grade 8 level impinged on the alienation construct. However, even though reading and math achievement were associated with student alienation from school in their study, they recommended that schools do more intervention work to reduce school alienation rather than directly addressing the reading and math difficulties. To do so they recommended psychosocial interventions aimed at keeping students connected to school.

In a study of Edmonton high school dropouts Tanner, Krahn, and Hartnagel (1995) found that dropouts mentioned personal and school related reasons for quitting such as boredom, alienation and rejection by the system as well as a desire for adult status. In stating why they thought they had failed in school, students with learning disabilities tended to give reasons such as not having tried hard enough (Kaplan, Peck, & Kaplan, 1994; Tanner, Krahn, & Hartnagel, 1995). Motivational aspects may affect the student's thinking; they apparently do not recognize or do not want to recognize that their skills and strategies for coping with academic learning might be limited and that this consequently leads to the boredom, alienation, and failure (Kaplan, Peck, & Kaplan, 1994). From a motivational and attributions theory point of view it is more self-serving and less threatening to their self-worth to say they didn't try hard enough or that the subjects were not interesting enough, than to admit that skills and ability might be deficient (Stipek, 1993; Strein, 1993; Vispoel & Austin, 1995)

Although it is realized in the counseling literature that 89% of truants have reading scores two years below grade level and that there is a correlation of .81 between truancy and dropout, the improvement of reading comprehension ability is not an intervention suggested in the counseling literature (See for example, Bearden, Spencer, & Moracco, 1989; Bell, Rosen, & Dynlacht, 1994; Blum & Jones, 1993; Blumberg, 1986; Downing & Harrison, 1990). It is this researcher's belief that the popularity of the non-academic intervention programs is related to the lack of knowledge of appropriate interventions to increase achievement through increasing reading comprehension and writing ability. High school teachers' and counselors' repertoires of academic interventions are rather limited (Goodlad, 1984) especially if they have not taught in the elementary schools. Counselors are often asked to design dropout prevention programs (Rose-Gold, 1991). However, to do so effectively, counselors need current empirical information about the needs of students at risk and interventions that are effective and need-fulfilling for the clients they are meant to serve. Little of the counseling literature, those journal articles that counselors might read, is empirical or longitudinal in nature (Barrington & Hendricks, 1989) nor does it address what may be a root issue -- reading difficulties. If professionals read only within their own field, such as the counseling literature, then they may deny themselves knowledge that might change intervention practices. In addition, should counselor/teachers read them, studies in the dropout literature treat what this researcher believes to be the symptoms rather than what may be the cause of failure to achieve and school failure.

Absentee Rates

At the secondary school level, studies in the dropout literature have commonly used absenteeism rates, subjects failed and Grade Point Average (GPA) scores to identify a potential dropout (Barrington & Hendricks, 1995). Rumberger (1987), whose review of articles and discussion regarding early identification and early intervention is often referenced by other researchers, identified only two studies that explored elementary school predictive variables of failure (cited in Barrington & Hendricks, 1989). Furthermore, in 1992, Rush found only 29 studies of 1000 reviewed that empirically examined at risk behaviour of elementary students (Rush & Vitale, 1994). There are few empirical longitudinal studies of dropouts (Barrington & Hendricks, 1989). Most studies in the dropout literature indicate that absenteeism is a precursor to dropout but reference other sources and include little empirical and specific data.

Barrington and Hendricks (1989) found differentiating characteristics of dropouts by the middle elementary school grades. They studied, amongst other factors, the absentee rates of two moderately sized urban/rural grade nine to twelve Wisconsin high schools. Although the authors note that standardized test data are near the mean for Wisconsin schools, the socio-economic and ethnic characteristics of the students are not identified making generalization to Canadian contexts difficult. By using a cut score of six absences Barrington & Hendricks could identify 66% of potential dropouts by grade three. They further found that dropouts then demonstrated a significant increase in absenteeism starting in grade five through to high school. By grade five dropouts were absent twice as often as those students who graduate and by grade nine they were absent three times as often averaging 20 days per year (Barrington & Hendricks, 1989).

It is believed by some that lack of achievement, reduced self-esteem, and reduced selfefficacy, (Gorrell, 1990) experienced in classes where the student feels out of control and incapable of coping, lead to absenteeism. Chall, Baldwin, and Jacobs (1990) may give a clue to the reason for the increase in absenteeism in grade five. In their study of student failure in reading ability, they note an increase in students who cannot keep pace with average ability students by grade four due to lack of vocabulary development and fluency in reading. In grade five these students, who are incapable of keeping up with the regular curriculum, would feel the effects of failure on their self-esteem and perhaps choose to start to skip school rather than experience repeated failure and the consequences of that failure in the form of teacher and parent disapproval or push to perform to standard. This researcher questions whether this increase of absenteeism, experienced in grade five, may be related to the increased reading difficulty experienced by grade five students who do not have the necessary word recognition skills for efficient reading comprehension beyond the grade four level and have reached the academic plateau discussed by Deshler, Schumaker, and Lenz (1984). A similar jump in performance standards occurs in grade eight when these students enter high school. It is unfortunate that by the time a grade eight student has obtained failing grades on the first term report card and demonstrated absentee behaviour they are already in danger of actively dropping out in grade nine. It speaks to the strong nature and psychological needs of some students who are learning, reading, and writing disabled that they stay in school and continue to experience continual failure just to be with their friends who are more important to them than schooling (Goodlad, 1984).

Lamdin (1996) studied attendance data at the aggregated school level from 97 of a total of 107 Baltimore elementary (grades one through five) public schools. The data of students who performed above the national median was used. Lamdin notes that the coefficient of variation for attendance of this group of students is very low (.02). He found that increased attendance is positively and significantly correlated to student reading achievement ($R^2 = .61$). Students who were absent more often also performed more poorly on reading and mathematics measures of the California Achievement Test. Problems associated with generalization of conclusions from this study include the fact that it is not known whether any of the students in this study received special education interventions: it can be presumed they did not since all students selected for the study performed above the national median on the California Achievement Test. Higher functioning students may exhibit different attendance behaviours than lower functioning students do. Therefore, this data may not be applicable to students with learning disabilities. Furthermore, attendance may be associated with latent variables such as motivation, parental expectations and involvement in schooling, and teacher/student relationships. Lamdin notes that attendance is a variable that can be addressed by school intervention whereas most socio-economic factors -innate student ability, parental background, family income level, residence status, and family educational motivational aspects -- are not accessible to school-based intervention. Teasing out the relationship between these variables and attendance would be difficult.

Lamdin concludes that school effort to increase attendance rate would be beneficial but does not suggest policies or programs that could ameliorate absenteeism. The latent variables affecting attendance, noted above, may be beyond school intervention practices. In addition the latent variables themselves may affect school achievement more so than attendance. It is a common perception that learning frustration and school failure lead to avoidance behaviours and absenteeism (Gorrel, 1990; McWhirter, McWhirter, McWhirter, & McWhirter, 1993). In addition, class level results as opposed to school level results may lead to different conclusions. Lamdin leaves analysis of these issues to future study.

On the other hand, student achievement and attendance were negatively related to such school controlled factors as the pupil/teacher ratio, the professional staff/pupil ratio, and the operating expenditure per pupil ratio. To support this finding Lamdin cites the findings of Hanushek (1986) who surveyed 112 studies and found a negative correlation between student performance and teacher/pupil ratio in 57 of these studies. Again, it is not known what role learning disabilities played in this data although the student/teacher ratio in special education and learning assistance programs is typically very low compared to regular education teacher/student ratios. In special education programs in the district under study, the student/teacher ratio is 10:1 or less per class. According to Hanushek, even with special education intervention and low teacher/student ratios these students apparently still do not perform better academically.

Bell, Rosen, and Dynlacht (1994) reviewed the literature on truancy and truancy prevention. Bell, et al argue that the first and most important step is to assess the cause of the problem. They fail to define what a consistent and all-inclusive cause might be. Akin to the recommendations of the counseling literature, recommended interventions to prevent truancy include the multimodal approach -- anything that has been thought of that works for some -including therapy, contracts, family therapy, parenting skills, attendance policies, alternative schooling, and tutoring. Although reading/writing disabilities are not specifically mentioned, these researchers recommend that skill deficiencies be remediated by tutoring. The effectiveness of tutoring as an intervention will be discussed later in the review.

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Failing Grades

Failure in academic achievement, including low reading success, as previously indicated, is often a first indicator of at-riskness even at the elementary school level. Failing grades have been found to be another important indicator identifying potential dropouts. Barrington and Hendricks (1989) were able to distinguish with 85% accuracy those students in grade nine who had failed one or two subjects and became dropouts. A grade point average score of 1.7 predicted 90% of failures and dropout. They found that in grade eight, dropouts had failed a mean of 2.5 subjects. In the study by Barrington and Hendricks, failing grades became one of the best predictors for identifying dropouts.

Retention, or failing a grade, is associated with failure of subjects. Most retention occurs in grade one (Rose, Medway, Cantrell, & Marus, 1983). Meisels (1993), in a study of the effects of elementary retention, used data from the National Education Longitudinal Study (1988) (NELS) eighth graders and found that 20% of all students in grades Kindergarten to eight had been retained. Of those 20% retainees in the NELS data base, 11.6% were retained in kindergarten, 27.4% in grade one, 15.2% in grade two, and 13% in grade three. Presumably these students, especially the larger number in grade one, are retained because of lack of achievement. Meisels notes that retainees were five to seven times as likely to be classified to have learning problems and to be assigned to special education.

Meisels establishes a causal relationship between retention and learning, behavioural, and emotional problems rather than a correlational relationship. He interprets the data to mean that retention has a negative effect on the achievement of students. He does not see the school's wish for retention to be the predictive signal that elementary teachers need to institute different instructional practices (particularly in reading) that will lead to success for these students who are destined to become our dropouts. Studies such as that of Bos, Ruyters, & Visscher (1990), a study of truants and dropouts in a Dutch school system, found that repeating a failed class correlated highly (.66) with dropping out. However, it would be inaccurate to draw more than an associative link, between retention and dropout as Meisels has done. Reseach evidence suggests that retention is a signal rather than a cause of potential dropout. Meisels correctly calls for more and new curriculum development and strategies to cope with the need for effective interventions
rather than retention. However, reading failure rarely appears to be effectively treated (Soodak & Podell, 1994).

Behaviour and Failure to Achieve

Some research indicates that behaviour also has an effect on school achievement. For example, Clark (1993) found, among a sample of ten Black high school seniors, that social skills such as the ability to work with others, the ability to express oneself maturely, and the ability to complete tasks were positively associated with academic success. Furthermore, Brady, Tucker, Harris, and Tribble (1992) cite the work of Wentzel:

"...Wentzel (1989) found a significant positive relationship between the children's gradepoint averages (GPAs) and their efforts to be dependable and responsible. This study found that the students' GPAs were not significantly associated with their scores on standardized achievement tests and that failure to conform to the social standards of the classroom uniquely characterized those students who made low grades. Wentzel concluded that classroom competence requires social skills as well as academic ability" (p. 43).

The only behaviour assessment noted on report cards supplied in this school district is the work habit mark consisting of a G, S, or U (Good, Satisfactory, or Unsatisfactory). British Columbia district policies do differ as to which work habit marks are used. Work habit marks cover a variety of student behaviours including social behaviours such as a pleasant social demeanour, appropriate social behaviour towards teachers and classmates, ability to work with others, and ability to express oneself maturely. Also included are learning related behaviours such as a pleasant and positive attitude towards learning, willing participation in class and classwork, a willingness to try difficult problems and tasks, completed homework and assignments, quality production of classwork and homework, willingness to spend extra time to obtain help or complete work, and non-disruptive in-class behaviour. Students who frequently demonstrate negative patterns of behaviour in relation to the above descriptions are also generally brought before School Based Teams which meet to recommend interventions for students with problems.

Learning, Reading and Writing Disabilities

Definition and Remediation

In contrast to the dropout literature and the counseling literature, the learning disabilities literature indicates reading disability and difficulty with reading comprehension -- not just low achievement -- to be one of the main defining and most frequent characteristics of a student with learning disabilities (Bender, 1995; Hallahan & Kauffman, 1982; Karlin, 1980; Lindsey & Kerlin, 1979; Norman & Zigmond, 1980; Rush & Vitale, 1994; Stanovich, 1988; Torgesen, 1988a, 1988b, 1989; Zigmond, Vallecorsa, & Leinhardt, 1990). It is estimated that up to 90% of all students who are labelled learning disabled are reading disabled (Kaluger & Kolson, 1978). However, I have not found more recent empirically based figures supporting this claim. Levin, Zigmond and Birch (1985) point out that, "In early studies, target populations were called 'reading retarded' rather than 'learning disabled' although from the descriptions of symptoms the distinction would appear to be only semantic" (p. 2). Coles (1989) comments that, "Reading, however, is the most common disability, so much so that calling a child learning disabled is understood to mean reading disabled" (p. 267). Coles argues that there is no such thing as a learning disability.

One explanation for why researchers and practitioners have been unable to agree on a definition of learning disability may be that learning disability as a unique, homogeneous construct does not exist. This researcher favours the perspective that over the last 20 years reading disability has been re-labeled a learning disability because educators could not resolve how reading disabilities occurred (Karlin, 1980, p. 455) nor could schools determine how to remediate reading disabilities without requiring a change in schooling systems and techniques (Coles, 1987, cited in Stanovich, 1989 Pelosi, 1981). For example, Pelosi (1981) concluded that the diagnosis of reading disability has been well researched and studied. However, the same cannot be said for the remediation of reading difficulties. Cazden (1986) states, "We have explained educational failure without being able to show how to reverse it. The losers are not only the children but our social science" (p. 447). We have a great deal of rhetoric but little idea of what is a truly successful intervention for students with learning/reading disabilities.

Fads and intuitive beliefs drive the practices in education more than empirical research does (Stanovich, 1989). The approach to educating teachers in the processes of beginning reading, based on theory of the day, apparently does not serve to give teachers skills to remediate reading

difficulties or to teach reading in any other than one approach. New teachers must learn, via appropriation from older teachers, how to use different methods to teach reading. An examination of a few of the reading methodologies texts used in the more recent past exemplifies the problems new teachers encounter when learning how to remediate reading deficits. For example, Karlin (1980), author of Teaching Elementary Reading, a reading methodologies text for teachers used in the 1980s, devotes five pages of a 470 page text book to remediation of reading difficulties and discusses interventions such as early identification, teacher encouragement, teacher support, and use of sound procedures (whole word recognition). Froese (1980), editor of the 322-page reading methodologies book, Whole-Language: Practice and Theory, recently used in British Columbia to train teachers in reading instruction methods, does not mention remediation and advocates only whole language as a teaching to read technique. Fields and Spangler (1995), in another 384-page text used in 1996, devotes four pages to a discussion of "Children Who Aren't Getting It" (p. 134) and "Supporting Children with Special Needs" (p. 246). They recommend more intensive intervention in the form of the Reading Recovery program (Clay, 1985, cited in Fields & Spangler, 1995) to remediate reading disabilities. With the use of whole language, the need to remediate reading difficulties is not perceived to be necessary (Fields & Spangler, 1995). Fields and Spangler state that phonics and whole word methods are not deemed to be necessary for the effective teaching of reading. Sutherland (1995) has described the 80-year history of education in British Columbia and has listed all the reading texts used throughout these years. Most of the reading texts of the past used whole word methods to teach reading. Regardless of recent research described in the literature (ie. Perfetti, 1984b; Stanovich, 1994; Torgesen, 1989) use of sound/symbol instruction has been neglected and discouraged, and is still commonly discouraged, although a backlash is occurring. Furthermore, strategy instruction is not a commonly used intervention to remediate reading deficits because strategy intervention, although discussed in some current learning disabilities texts (i.e. Bender, 1995), is not a widely disseminated technique that is readily available to teachers. Many teachers are left with few skills in the remediation of reading disabilities.

The broad characteristics typical of some students with learning disabilities may be consequences of reading failure rather than causes of reading failure. It is this researcher's view that the core underlying causal problem of students with learning disabilities is failure to learn to

read. Research on the causes, interventions, and prevention of learning disabilities should center on the causes of, interventions for, and prevention of reading failure. Children who have difficulty with reading also have difficulty acquiring domain-specific information via the reading process (Perfetti, 1984b, 1986; Shaw, Cullen, McGuire, & Brinckerhoff, 1995; Torgesen, 1989). This is not a new problem. Three hundred years ago Pascal commented that "when we read too fast, or too slowly, we understand nothing" (cited in Adler & van Doren, 1972). Torgesen (1989) points out that a child who fails in reading will respond with inappropriate social behaviours in the classroom and with truancy (see also Weber, 1994). Behavioural difficulties and absenteeism in turn lead to inability to learn, starting an inherently cyclical pattern of behaviour leading to failure (Ciborowski, 1995; Hallahan & Kauffman, 1982; Torgesen, 1989; Vauras, Lehtinen, Olkinuora, & Salonen, 1993). The correlation between standardized achievement test data such as reading comprehension scores, grade point average, and subjects failed is high (Barrington & Hendricks, 1989). Barrington and Hendricks demonstrated that grade point average and subjects failed was predictive of school dropout at the r = .90 level. Children who have failed at learning to read proficiently also tend to exhibit the behavioural characteristics that are so problematic to counselors and other school staff.

It is often a reading and writing disability that leads to poor achievement and to school failure (Bender, 1995). The defining criteria of low achieving students, used by some researchers, include those students who are functioning below the 33rd percentile on group administered achievement tests which include reading comprehension assessments (Schumaker, Alley, Warner, & Deshler, 1980). Students with learning disabilities tend to plateau at the fourth or fifth grade levels in the academic achievement of reading, writing, and math skills by the time these students reach the junior secondary grades (Alley & Deshler, 1979; Chall, Jacobs, & Baldwin, 1990; Deshler, Schumaker, Lenz & Ellis, 1984; Snow, Barnes, Chandler, Goodman, & Hemphill, 1991; Stanovich, 1988, p. 595; White, 1992). In a follow-up study of students with learning disabilities, Levin, Zigmond, and Birch (1985) had collected data on 52 Pittsburg grade nine students whose mean reading pretest scores on a Peabody Individual Achievement Test was a grade equivalent score of 4.71. In their follow-up assessment four years later, when the students should have been in grade 12, the grade equivalent scores of the remaining 16 in-school students was still only 6.37, and only 5.45 for 11 of the students they could trace who had dropped out of

school. The scores of the dropouts were initially higher (4.27) than the scores of the students who stayed in school (3.90). In four years of special education services the 16 students increased their reading score by 2.47 grade levels. This data supports the notion that students with learning disabilities plateau at about the grade four to five level.

Bender (1995, p. 179) has argued for a concept he calls cumulative deficit (see also, Chall, Jacobs, & Baldwin, 1990; and Coles, 1989). Students with learning/reading disabilities fall further behind each year, beginning in grade one, by mastering perhaps only three-fourths of each year's content or instruction. They fail to catch up. According to Rose, Medway, Cantrell, & Marus (1983) this deficit is conservative. They report, for example, that retained students only make gains of six months in achievement. The students actually need two years to learn what the promoted students learn in one year. These students eventually reach the academic plateau, discussed earlier, which was identified by Deshler, Schumaker, and Lenz, (1984). They continue to fall behind and drop out instead. Students with reading and writing disabilities can be two grade levels, and often up to five grade levels, behind in their ability to read and write, when they reach grade eight at the junior high school level (Bender, 1995). This low reading and writing level can have some dire consequences for the students especially considering the environment and context of the typical high school.

Curricular Reading and Writing Requirements

Standards for reading ability are high, sometimes inordinately so (Espin & Deno, 1993a; Lindsey & Kerlin, 1979; Schumaker & Deshler, 1984). Using a Fry Readability Assessment (Fry, 1968), some grade eight textbooks in use are rated at a grade ten to grade seventeen reading level. For example, using Fry's measures, I have discovered that Beers' (1984) <u>Patterns of</u> <u>Civilization</u>, a grade eight social studies text used in British Columbia is written at a grade ten level. A new Social Studies eight textbook, <u>Across the Centuries</u> (Armento, Klor de Alva, Nash, Salter, Wilson, & Wixson, 1994) currently proposed for use in British Columbia schools, has a readability at a grade ten level. (Eighteen teachers reviewed this text intended for grade eight students. It is striking to note that ten of the reviewers are teachers who taught grades Kindergarten to three, and eight are teachers who taught grades four to eight. Only two of these last eight teachers taught grade five and eight.) Teachers want to choose this text for lower ability students because it has a large format, it has many pictures and maps on each page, and the large print makes it look easier and more user-friendly (Chall, 1991). Espin & Deno (1993a, 1993b) have recorded that, in their study using science texts for grade ten students, the readability level was at a College graduate level of grade 15.5 to 16.3.

Chall, Conard, with Harris-Sharples (1991) carried out a study that examined the debate regarding difficulty of textbooks for today's students. Popular complaints centering on the reduction in educational standards and literacy, especially in the textbooks being used for curriculum, led them to do a comparison of textbook difficulty and changes in textual literary styles and discourse between 1974 and 1989. They found in their comparison of three decades of textbooks that readability levels of textbooks had not changed. Most social studies and science textbooks, including those meant for below-average readers, were written two or more grade levels above the grade they were intended for. This may provide the challenge average readers need to improve their reading ability but does not serve below average readers. According to Chall et al there are few textbooks on the market that are appropriate for the lowest quarter of reading ability students. The exception were reading texts which tended to be written at grade level. In comparing standardized Metropolitan Achievement Test reading data of students with the level of difficulty or readability scores found in most commonly used social studies and science textbooks at the grade eight level, these authors concluded that average and below-average students would have difficulty reading and comprehending their textbooks. Students would be functioning at frustration level when a book is written one grade level above their ability level.

For the student who reads at a grade four to five level, the reading and decoding of the polysyllabic and content-specific language in these content texts (or the aforementioned social studies eight text, or any text for that matter) becomes a challenging and often discouraging task (Perfetti, 1986; Stanovich, 1988; Torgesen, 1988b). Most teacher manuals recommend that teachers instruct students to derive recognition or meaning of difficult vocabulary from context (Chall, et al, 1991). This type of exercise serves the same function as a cloze test only the missing words are based on individual student's knowledge and recognition of vocabulary. This pseudo-cloze exercise becomes a guessing game which at 35% or less accuracy, the norm for students with low ability, means failure (Chall, et al, 1991). In these texts, even the use of contextual information degenerates due to slow and inaccurate decoding processes (Stanovich, 1980, 1984). The direction to use context clues to comprehend written material becomes an absurd assignment.

Students, who already may read two to five grade levels below their grade eight placement, cannot independently read or comprehend these texts written at a grade ten level and they typically lack strategies to cope with these written materials (Schumaker & Deshler, 1984). More importantly, they cannot read to learn (Baker, Kameenui, Simmons, & Stahl, 1994; Chall, Jacobs, & Baldwin, 1990). Some teachers cope with the disparity between reading ability and readability of texts by reading them aloud, or by using audio-visual and media aides rather than texts with these students thereby furthering the loss in reading ability of the students with low reading ability who rarely practice reading (Chall, Conard, with Harris-Sharples, 1991; Goodlad, 1984; Zigmond & Baker, 1996). These compensatory methods are typical of the interventions used in secondary school learning assistance programs.

Students with reading disability typically have associated writing disabilities. Thus, a second difficulty for students with reading and writing disabilities is that high school teachers not only demand evidence that a student has knowledge of a subject matter, but also that the student can present that knowledge using appropriate writing conventions. Presentation of most student knowledge is required in the written format. Most of these students demonstrate concomitant deficits in handwriting, spelling, organization of written work, vocabulary, writing mechanics, and monitoring of writing errors (Alley & Deshler, 1979, p. 104; Bender, 1995, p. 215; Chall, Jacobs, & Baldwin, 1991; Ciborowski, 1995; Schumaker & Deshler 1984, p. 30). This means that students with writing disabilities are incapable of producing written work to the required high school standard, which includes proper spelling, punctuation, grammar, complete sentences and paragraphing skills. Neither can they complete the usual written homework assignments related to the readings. Homework is one of the requirements a student with reading or writing disabilities often cannot fulfill. The failure to complete homework assignments gets most of these students in quick trouble with a teacher, a counselor, an administrator, or a parent.

Lack of reading and writing achievement can become a crucial issue by the time a student with learning/reading/writing disabilities is faced with the complex demands of junior secondary school where reading and writing at grade level clearly are ranked as the top skills required for success (Alley & Deshler, 1979; Bender, 1995; Goodlad, 1984; Schumaker & Deshler, 1984). The demands of the junior high school class include the ability to take notes while listening to lectures, the independent reading of texts written at high readability levels, the independent writing

of assignments, and the independent study of classroom material. These are often accomplished with minimal teacher help and feedback (Goodlad, 1984; Schumaker & Deshler, 1984; Truesdell, 1990; Wells, 1996). Students are expected to be literate when they enter high school (Alley & Deshler, 1979). In high school classes teachers still teach to the whole group-- usually the average group (Goodlad, 1984; Schumaker & Deshler, 1984; Wells, 1996) and the need for content knowledge of curriculum and a grade twelve provincial exam drives the teaching process (Parker, 1993; Scruggs & Mastropieri, 1993). (If teachers taught to the 33rd percentile and lower as some researchers have argued, then the low-achieving students might pass; however they don't pass because teachers teach to the average group. Higher ability students may not be challenged and some consequently become underachievers.) High school teachers lecture or talk extensively, require mostly textbook and worksheet reading, and ask students to answer factual, declarative knowledge questions on worksheets or as short essays (Goodlad, 1984; Larson, 1989; Schumaker & Deshler, 1984; Wells, 1996). The pace of instruction in content material is so fast, especially on a semestered system, that there is little time to ensure that students with reading and writing disabilities have mastered the skills taught in the mainstream classroom (Goodlad, 1984). Students who use taped books as a compensatory method of acquiring information, require double or triple the time needed by a fluent reader to listen to and acquire the information from the book -- time that may not be available or willingly spent. In addition to the reading/writing disability, the independent, uncollaborative study that is required in the typical high school classroom appears to be beyond the ability of students with learning disabilities (Larson, 1989).

In an era where mainstreaming and inclusion policies are being implemented at the high school level, and where "pull-in", compensatory, and adaptive measures may occasionally replace regular instruction, the reading/writing disabled students are quickly left far behind academically. The inability of the majority of reading/writing disabled students to read and write appropriately typically leads to incomplete assignments and consequent failure in one or more core academic subjects (English, Social Studies, Math and Science) and elective subjects, all of which depend on the reading of textbooks and worksheets, and on written assignments (Barrington & Hendricks, 1988; Goodlad, 1984). Consequences of repeated failure due to inability to read and write are lack of self-esteem, behavioural problems, absenteeism, and school-leaving before grade twelve (Karlin, 1980; Mellard & Hazel, 1992; Stipek, 1993). Goodlad comments about the basic ability to

read, write and do arithmetic that, "With few exceptions, those who are deficient in them will be severely limited in their ability to function effectively in our society" (p. 51) never mind in school (see also, White, 1992). These are students who eventually give up (Hansen, 1989), or are given up on, after grade eight. These students have normal intelligence, but they just cannot read or write fluently at grade level.

Beliefs About Intervention.

The need to be able to identify a group of students as learning, reading, and writing disabled as quickly as possible is crucial to successful, timely intervention techniques at the junior secondary school level. Torgesen (1988a) argues that, since learning disabilities are characterized by specific rather than general deficits, diagnosis and interventions of learning disabilities should be concerned with identifying deficits in specific knowledge or skill domains (such as reading ability) to help students with learning disabilities to function better. Within the context of operational definitions of a learning disability, Shaw, McGuire, Cullen, and Brinckerhoff (1995) argue for the same thing. Ironically, students with reading disabilities (who make up an estimated 90% of the learning disabled population) are often already identified in grade one (Felton & Wood, 1988 cited in Torgesen, 1989; McGill-Franzen & Allington, 1991) where they are placed in slower reading groups by December. By grade three many will have participated in remedial reading classes (Barrington & Hendricks, 1989). By grade five a reading disability is typically not noted on the student's report card but behaviour and absentee problems are. By grade eight they need help quickly before they decide to quit school: they are nearing the age in grade eight where they can do so (Espin & Deno, 1993a). Students can legally leave school at age sixteen (Province of BC: Ministry of Education, 1995b). Many students start the leaving cycle before age sixteen through the transfer process (Lee & Burkam, 1992) or are pushed out to go to correspondence school where the completion rate of all "school-leavers" -- students aged sixteen to nineteen -- is less than sixteen percent. This correspondence school enrolls correspondence students from almost the entire northern half of the province of British Columbia (George Harris, personal communication, July 19, 1996).

Soodak & Podell (1994), in an interesting study, presented teachers with a case study and investigated the recommendations of 110 (40% response rate) mostly primary teachers (64%) to remediate a male student who came from a recently divorced family, displayed behavioural

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problems in school, and had reading difficulties in a basal reader. Eighty-three percent of the teachers recommended that teaching strategies should be changed. These suggested teaching strategies included reading strategies (34%) consisting, primarily, of a transfer to a wholelanguage/literature program (16%), or phonics (7%), as well as classroom organization, changed methods/materials, and tutoring by the teacher, by a peer, and by others. Other suggested interventions included parent involvement (78%), assessment (64%) by an interdisciplinary team (52%) and by a reading specialist (7%), emotional support strategies such as behaviour modification or support of self-esteem (53%), and outside services (47%). Of the outside services it is perhaps significant for counselors that intervention involving their services (35%) is near the bottom of the list along with remedial reading (18%) and resource room programs (12%). Only eighteen percent of the teachers believed counseling was an effective intervention and eleven percent of the teachers believed remedial reading was an effective intervention. These latter data send an important message to counselors and reading teachers. General education teachers do not believe that counseling or reading instruction are very effective interventions. Changing student behaviour via psychosocial interventions was more important to general education teachers than improving academic deficits.

In examining teacher belief regarding the causes of the student's school difficulties and behaviour problems, 63% of the teachers attributed the student's behaviour to home factors (the case study indicated the student's parents were divorced) and 51% attributed problems to the student. Breaking the 51% down somewhat further, cause was attributed to learning disability (13%), self-esteem (10%), and emotional problems/frustration (23%). Causes related to schooling garnered 9% of the teacher vote. This latter category included general reasons (5%), poor teaching (3%), and large class sizes (2%). The majority of teachers attributed reading and behaviour problems to home factors and a divorce.

Trusty and Dooley-Dickey (1993) point out that every instrument used to identify potential dropouts list academic achievement deficits or grade failure due to achievement difficulties, as the primary identifier of potential dropout. However, achievement deficits are not specifically identified as reading or writing deficits. Ironically, of a number of lists identifying 30 to 40 possible interventions brainstormed by teachers or researchers to prevent dropout, either the issue of reading and writing failure that lead to the failed grades and consequent truancy is not

addressed, or remediation of reading and writing difficulties is suggested well down the list of interventions (see for example, Baker, 1990; Bearden, Spencer, & Moracco, 1989; Kauffman, Wong, Lloyd, Hung, & Pullen, 1991; Lombardy, Odell, Novotny, 1990; Monroe, Borzi & Burrell, 1992; Payne & Payne, 1991). Even though teachers identify poor reading, vocabulary, English, and reasoning skills as the main characteristic of truants (Bell, Rosen, & Dynlacht, 1994), the correction of reading ability is not at the top of the list of interventions. This may be due to the fact that the concept of learning disability has replaced reading disability and a nebulous learning disability is difficult to remediate. Instead, the problem of learning disability is believed to lie in a brain dysfunction of the student or in family problems rather than in other school-based factors such as teaching techniques or materials (McGill-Franzen & Allington, 1991; Rodden-Nord & Shinn, 1991). Reading disability is no longer at the forefront of attention. Educators can abdicate responsibility for intervening variables over which they have no control. This researcher believes differently; reading problems can be remediated and students' academic lives can be improved. First, however, a reading problem must be recognized as such.

Ellis (1994) compares the practice of asking teachers why students fail and drop out to "asking the wolf why there are so many feathers in the empty chicken coop" (p. 195). It is only recently that the educational system and its environments, standards, resources, and staff, and not just students and their social characteristics, has also come under examination (Goodlad, 1984; Rodden-Nord & Shinn, 1991; Tanner, Krahn, & Hartnagel, 1995; Wehlage & Rutter, 1986). Early identification and prevention of reading disability, especially at the elementary level, are needed rather than remediation too late (Barrington & Hendricks, 1989). At the grade eight level this call comes almost too late.

Improving reading comprehension ability of high school students who are learning, reading, and writing disabled and at risk of dropout is seldom mentioned in the dropout literature (For an exception see Bender, 1995). For example, of the 59 projects described in the Canadian government's <u>Stay-in-School Initiative</u> (Human Resources Development Canada, 1996), only four address the improvement of reading ability. Of the 69 dropout studies examined by this researcher, not a single one lists reading or writing remediation as an option to help keep students in school. It is as if the dropout literature and the learning disabilities literature have never crossed paths. Neither is reading remediation mentioned in the counseling literature. This has had the

effect of severely limiting some options available to counselor/teachers at the high school level (who typically read only the counseling literature and dropout literature) for coping with learning, reading, and writing disabilities and for using some potentially effective interventions to prevent absenteeism, subject failure, and dropout.

It is the opinion of this researcher that any approach that serves to increase reading and writing ability in students with learning, reading, and writing disabilities is likely to be better at preventing academic failure and consequent dropout than approaches that try to intervene in the socio-behavioural spheres of learning disability because poor reading achievement addresses a root problem. Further research questions leading to meaningful and effective interventions for high school students with learning, reading, and writing disabilities must be asked and interventions must be evaluated. (Bender, 1995; Schumaker & Deshler, 1988). Questions, theories and definitions leading to group membership, after all, ought to lead to more efficient and effective interventions.

Learning Assistance Approaches

Secondary school learning assistance is of particular interest in this study since learning assistance through resource room instruction is the most commonly used method to remediate, or to compensate for, the consequences of learning, reading, and writing disabilities at the high school level. Since most learning assistance effort is spent to help a student complete the assignments of the regular high school curriculum, reading deficits and interventions addressing reading deficits that help the student become a better reader, are rarely attempted (Soodak & Podell, 1994). The following discussion examines the typical learning assistance interventions. Resource Room Versus Inclusion

Recent debates regarding instructional models in learning assistance usually swirl around the issue of whether to use resource rooms and homogeneous streaming or whether to practice inclusion and integration of all students into heterogeneous classes (i.e., Andrews & Lupart, 1993; Deno, Foegen, Robinson, Espin, 1996). Baker and Zigmond (1995) comment that where to teach has become more important than what and how to teach. Mainstreaming and inclusionary theory have led to the currently popular belief that the best place for a student with learning disabilities to be is in the regular classroom taking part in regular curriculum. Learning assistance should be "pulled in" or take place within the regular classroom, in contrast to students being "pulled out" into resource rooms (Andrews & Lupart, 1993; McGill-Franzen & Allington, 1991). This is based on the unspoken assumption that the regular curriculum is the best education all students can aspire to. In the inclusionary debate little is said of the boredom of the regular curriculum or of the ineffectual modes of instruction that are found in many high schools (Goodlad, 1984; Cazden, 1986).

Baker and Zigmond (1995) studied the inclusionary practices of ten elementary schools across the US and found that inclusion does not look much different from co-teaching practices; few students with learning disabilities received individual instruction or individual assessment of progress which then determined future planning. They noted that both the specialist and the regular education teacher of an inclusive classroom usually changed the curriculum and teaching techniques of the whole class to suit the needs of the student with learning disabilities thereby lowering expectations for average and above average students. This often included reading text aloud to all students thus reducing the amount of independent reading of all students. This would have the effect of dropping the educational standards of the average and higher functioning students. In a second article they state, "Based on our research, we cannot support elimination of a continuum of services for students with LD. Inclusion is good; full inclusion may be too much of a good thing" (Zigmond & Baker, 1996, p. 33). They conclude that intensive, direct, focused, sustained, frequent intervention, such as required by a strategy intervention, was not possible in a regular education classroom. Espin, Foegen, Robinson, and Espin (1996), who wrote a commentary on the similar experiences in inclusionary classrooms, have struggled to find solutions to the same dilemma regarding the common practice and efficacy of inclusionary models of intervention. They specifically make note of the lack of resources, especially that of support personnel, as these relate to effective intervention practices.

No studies were found that examined inclusionary practice of students with learning/ reading disabilities at the high school level. Most research takes place at the elementary level where one teacher teaches a class of 30 students or less. In a content-driven high school setting, the student with learning disabilities often is expected to adjust to the rest of the class rather than the reverse. Additional issues that need to be remembered in the inclusion debate include four points: (a) the feasibility of individualized instruction at the secondary mainstreamed level where a teacher

teaches as many as 210 students every two days; (b) the debate regarding content instruction or process instruction, the time process instruction takes (Ciborowski, 1995; Parker, 1993), and which of these two creates more success on the grade twelve provincial examinations; (c) the notion that secondary teachers should not have to teach basic skills as these should have been taught at the elementary level (Deshler & Schumaker, 1993); and (d) the distribution of one LA teacher's time for a typical school population of 500, 30% of whom typically have reading and writing disabilities, not to mention those who underachieve, have behavioural disturbances, or need enrichment. For these reasons LA intervention in a resource room setting serves an important role. Keeping these four points in mind, current research has reported that resource room programs benefit students with learning disabilities more than inclusion or mainstreaming does (Bender, 1995; Carlberg & Kavale, 1980; Madden & Slavin, 1983; Weber, 1994, p. 55).

Epstein and Cullinan, (1983) used standardized achievement test data to examine the differences between two groups of students with learning disabilities and behavioural problems. Criteria for selection for the Illinois standards included normal intelligence, an achievement deficit, and normal sensory acuity. Epstein and Cullinan found that cross-categorical services for students with learning disabilities and students with behaviour problems did not provide for the needs of both groups; curricular needs of each group were too different especially as Epstein and Cullinan found that the two groups' reading ability was so disparate. They have not indicated whether the behaviour problem students were low achievers rather than learning disabled and, therefore, experienced failure due to behavioural issues originating outside the school. Each group needed different teaching practices and objectives. This would indicate as well that the needs of students with learning disabilities will not be met in the regular content driven high school classroom, at least without significant adaptations in instructional practices.

Hansen (1989) found that students who experienced academic demands that were beyond their ability level practiced lesson evading and lesson rejecting behaviours that grew stronger as the demands increased. Hansen indicates that transition from elementary to junior high school results in a sudden increase of student lesson rejecting behaviours as the students confront demanding assignments, complex classroom interactions including more teachers, and changing peer relationships. He found that students whose ability level matched the task demands learned the most. Less able students who were asked to perform tasks beyond their ability level became bored

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and demoralized. More able students become bored when the lesson demands were too low. These findings are important to keep in mind when considering inclusion policies at the secondary level.

Strein (1993), who used Marsh's self-concept studies on the <u>High School and Beyond</u> data base (1990, 1991, cited in Strein, 1993), postulates that academic achievement is prone to be raised more effectively in streamed classes. Students in streamed classes compare themselves to other students functioning at similar levels rather than against those who function at a much higher achievement level as in mainstreamed, inclusive classes. Marsh and Parker (1984) have labelled this the Big-Fish-Little-Pond Effect (see also Stipek, 1993). Research in this area has concluded that the academic self-concept of students with learning disabilities is higher in remedial classes where adverse comparisons are reduced.

Learning Assistance Programs

Few learning assistance programs, whether they consist of resource room programs, career education programs, survival skills programs, or inclusionary models, have been evaluated (Deshler, Schumaker, & Lenz, 1984; McGill-Franzen & Allington, 1991). Little research has concerned itself with examining the success rates of learning assistance programs. McGill-Franzen and Allington (1991) comment that few schools have programs that have demonstrably changed the success rate of low ability readers. However, there is so little research that examines, comparatively, the different LA programs at the high school level, that it is difficult to reach any certain conclusions about the efficacy of any model of intervention. Rate of success or failure in mainstreamed academic subjects and resource room instruction should indicate which is better for the student with learning, reading, and writing disabilities.

Most high schools use a combination of the tutorial/basic remediation/ compensatory approaches as well as survival skills and career education classes (Bender, 1995; Alley & Deshler, 1979; Deshler, Schumaker, Lenz & Ellis, 1984). These interventions are used to correct or bypass the deficits of students who are learning/reading/writing disabled as well as to prevent school achievement failure and consequent dropout. In an older American study, Deshler, Lowrey, and Alley (1979) surveyed 98 secondary teachers from 48 states and found at that time that 45% of all classes used basic-skills remediation, 24% used the tutorial approach, and 17% used a survival skills approach. They found that few classes used a learning strategies approach, more than likely because it is a post-1970s development. A more current study examining the typical interventions used in high schools has not been found. However, Guyer and Sabatino (1989) report that, of 30 students in their study of college students with learning disabilities, all had received only tutorial help with class work during high school. Many current recommendations for students with learning disabilities include coping skills such as note-taking and test-taking skills (Alley & Deshler, 1979; Deshler et al., 1984). And today, almost every British Columbia high school has some sort of career education/survival skills program for its lowest functioning students.

Deshler, Schumaker, Lenz, and Ellis (1984) and Clark (1993) found little empirical evidence that the tutorial/ basic remediation/ compensatory approaches were effective to increase reading comprehension ability. Evidence on the effectiveness of learning assistance programs came indirectly through their own research on strategy instruction. This indicates the lack of purposeful study to assess typical learning assistance programs. Concurrent with other strategies instruction studies, Schumaker, Deshler, Alley, and Warner (1983) found students in learning assistance programs demonstrated minimal achievement gains of 0.3 years and 0.2 years in a full year of instruction. Clark (1993) reports a 0.6 gain in a learning assistance program. Gottesman (1979) also reports that students with learning disabilities made minimal gains of 0.4 grade levels a year while in remedial instruction. As a result, a less than one year gain in reading achievement through special education programs is not enough to keep pace with normal standards of academic achievement gains (Bender, 1995; Zigmond, Vallecorsa, & Leinhardt, 1990). The cumulative deficit continues. This means that the tutorial/ basic remediation/ compensatory approaches are not successful enough to help students with learning/reading disabilities improve their reading ability to achieve high school graduation.

There are several studies that indicate that reading improvement is a possibility for students who are learning/reading disabled. For example, at a conference presentation Mann demonstrated that oral reading rhythm, pitch and emphasis were used in dramatic reading to increase listening comprehension (Mann, 1988, cited in Torgesen, 1988b). However, the ability to listen and comprehend text is not a problem so much as reading and comprehending text is. In addition, few teachers in inclusive high school classrooms read all written text aloud. It requires too much time that is not available in a content driven curriculum. Students must still be able to read independently.

Zigmond, Vallecorsa, & Leinhardt, (1990) describe how simply increasing silent reading time by 30 minutes a day improves reading comprehension achievement by one grade level. Elementary and high school students spend very little of their in-school time -- only minutes per day -- actually reading (Goodlad, 1984; Schumaker & Deshler, 1984). However, one grade level in improvement serves only to keep pace; it does not serve to improve and catch up. Furthermore, a change in teachers' perception of their roles as information givers who talk or lecture for 65% of the class time (Schumaker & Deshler, 1984) must occur in order for students to spend more class time in reading.

The research of Stanovich (1988) and Torgesen (1988b) has demonstrated that a failure in knowledge of sound symbol relationships leads to failure to comprehend reading material and Perfetti (1986) found that most students with reading disabilities cannot read polysyllabic words. Ceci (1988, cited in Torgesen, 1988b) and others describe lack of specific types of knowledge, such as knowledge of sound/symbol relationships, word segmentation, or vocabulary, rather than basic processing disabilities as a cause of learning/reading disability (Clark, Deshler, Schumaker, Alley, & Warner, 1984; Perfetti, 1986; Schumaker & Deshler, 1984; Stanovich, 1982a). Research in the Word Identification Strategy (Lenz & Hughes, 1990), as noted below, for students reading below a grade 4 level, as well as the work of Polloway, Epstein, Polloway, Patton, and Ball (1986), demonstrate that students' reading can improve using sound/symbol instruction. Some of the studies described below deal with these particular deficits in knowledge.

Polloway et al (1986) studied the effectiveness of a basic skills remediation program called the Corrective Reading Program (Engelman, Becker, Hanner & Johnson, 1980), on 78 students with learning disabilities from a rural/suburban central Virginian school district. The students, who were reading at a grade 4 level or less, improved their reading comprehension, as measured by the Peabody Individualized Achievement Test, (perhaps a questionable tool) by a mean achievement gain of 0.64 years in one year (p.45). This is greater than the gain of 0.2 years and 0.3 years reported by Deshler et al. (1984). However, the gains of 0.64 years in reading scores, reported by Polloway, et al above, are still not enough to make a substantial academic difference for students with learning disabilities. Polloway, et al (1986) call for further study on structured programs to assess the effectiveness of Corrective Reading Programs in comparison to other programs.

Espin and Deno (1993b) cited earlier, in concluding that general reading skill is related to academic success in school, recommend that students with content-specific deficits would benefit from assistance with content-specific interventions such as background knowledge development and vocabulary in the specific subject. On the other hand, they recommend that students with general deficits continue to receive intensive help to remediate basic literacy skills deficits throughout high school. Espin and Deno argue that literacy development is more conducive to lifelong success. Future research needs to empirically test this as little empirical data is available at this time. In a practical-experiential sense this has been found to be true. We have found in our local community that students in work experience programs who may demonstrate ability to do a job will not be hired when they fail company proficiency tests (Paula Shepherd, personal communication, 1996). White, (1993) in his review of the post-school adjustment literature, has noted the continuing and increasing importance of basic reading and math skills to keep pace with the changing and increasingly complex job market. The issue for the junior high school counselor is what to do with, or recommend for, students with learning/ reading/writing disabilities that will prove more effective than the tutorial/basic remediation/ compensatory approaches commonly used in resource rooms (Espin & Deno, 1993a). The gains made in these programs are not enough.

Skills, critical to the increasing development of comprehension of reading material and learning information from textual material, include the student's ability to improve word recognition, to increase vocabulary knowledge (Chall, Jacobs, & Baldwin, 1990), and to identify main ideas (Rinehart, Stahl, & Erickson, 1986; Williams, 1988). These skills are addressed by the application of the Strategies Intervention Model (SIM) Paraphrasing Strategy of Denton, Deshler and Schumaker (1984). It is an approach that has been used successfully to increase reading achievement for students with learning/reading/writing disabilities. Denton et al (1984) have reported the Paraphrasing Strategy to be effective in overcoming students' inability to read and process grade level reading materials and therefore, to succeed, rather than fail, at school. The Strategies Intervention Model (SIM) may be an important tool to keep students in school and to help them be successful at the academics of junior high school.

The Strategies Intervention Model

The Strategies Intervention Model (Schumaker, Denton & Deshler, 1984) derives from the theories of cognitive psychology (Bender, 1995). It characterizes students with learning disabilities as inactive learners who do not spontaneously create or use strategies to learn new material (Bender, 1995; Ellis, Deshler, & Schumaker, 1989; Torgesen, 1982), or as learners who may have an inability to process information (Clark, 1993). A lack in information processing ability is an inability to acquire, store, and use information (Alley & Deshler, 1979). It has been found that more than 50% of students with learning disabilities displayed cognitive deficits such as the inability to create or use cognitive strategies to solve a problem (Deshler, & Schumaker, 1989). For example, Rabren and Darch, (1996) studied five grade four students labelled learning disabled and five grade four students in regular programs. They found that the students with learning disabilities remembered fewer details and could retell less of a story they had read, retelling only 20 critical details compared to 50 details retold by the general education students. Furthermore, students with learning disabilities used no text-based strategies to comprehend the story and instead used what Rabren and Darch considered to be poor strategies: getting parents to give help, using prior knowledge rather than knowledge from the text, and using less sophisticated strategies such as memorization. Neither could students with learning disabilities remember or identify text-based strategies their teachers had taught them. Text-based strategies included thinking about important parts of the story or referring back to the story by re-reading the text. Rabren and Darch concluded that students with learning disabilities were not passive learners; rather, they actively used poor strategies for coping with text which led to less effective comprehension of text.

The views that students with learning disabilities are learners who do not use learning strategies effectively or who use inappropriate strategies, have led to a series of strategy intervention models such as that of Deshler, Schumaker, Denton, Lenz, and Ellis (1984). Strategy instruction, including reading strategy instruction, is designed to help students with learning disabilities comprehend, organize and approach learning situations in a systematic manner (Shaw, Cullen, McGuire, & Brinckerhoff,1995). In using the strategy instruction students are interactive and manipulative with information using an inner language or executive functioning (Bender, 1995). They learn meta-cognitive strategies such as practice in how to think to solve a problem. The use of acronyms as a memory aid is a common technique with the strategy intervention model. Deshler and Schumaker (1993) make note of fourteen research studies on strategy instruction with secondary school level special education students that have been completed, mostly within the last fourteen years. Some of these include unpublished doctoral dissertations and are not readily accessible to public perusal via published journals that may be read by school personnel. Unless a teacher/counselor has taken the strategies intervention model training, reads the journals faithfully, or has taken a recent methodologies course it would be difficult to find out about the strategy intervention model. Some specific studies produced by Deshler and his associates at the University of Kansas Learning Disabilities Institute that have been published in the journals include: a study on error monitoring (1978), a learning strategy called Multipass (1982), social skills training strategies (1982), a visual imagery and self-questioning strategy (1984), generation and use of task-specific strategies (1989), a word identification strategy (1990), an integrative strategy instruction model (1993), the strategic learner apprenticeship (1993), a combined composition writing strategy (1993), and a notetaking strategy (1993). A few other references to the strategy intervention model are reported in ERIC but only one is an empirical study.

Generally, reported positive results in the application of these strategies have included faster reading rates, better class notes, improved academic performance on class-tasks, improved quiz performance, and increased achievement test scores. The two empirical studies that most closely relate to this current study are the Visual Imagery and Self-Questioning strategies (Clark, Deshler, Schumaker, Alley, & Warner, 1984) and the Multipass strategy (Schumaker, Deshler, Alley, Warner, & Denton, 1982). Both are described below in addition to others.

Clark, Deshler, Schumaker, Alley, and Warner, (1984) taught six students (one grade eight, four grade nine, and one grade eleven) who were reading at a mean 5.8 grade equivalent (range 4.1 to 7.3) a visual imagery and self-questioning strategy designed to improve reading comprehension. The students had normal intelligence scores indicating they fit the accepted definition of learning disability. The intelligence tests were not identified. Using a multiplebaseline single-subject design they demonstrated, over roughly a month's time, that students with learning disabilities could successfully learn a strategy. Through the strategy, the students improved their reading comprehension of material written above their independent reading level and scored between 60%-90% on post-tests and 60-78% on follow up tests. Previously, on baseline data, students had scored between 32-55%. In a review of a second study using a visual imagery strategy Deshler and Schumaker (1993) report similar gains in reading comprehension. Only baseline data and training effect data is reported. No statistical analysis was performed and no statistical data was cited. Because there were only six students in the study generalization must be cautious. Due to the limited duration of the study, there is no indication that students retained knowledge of the strategy intervention or that the effects of the intervention were stable and endured the test of time. Clark et al (1984) also recommend further research in alternate strategies especially when great differences exist between reading level and grade placement.

Schumaker, Deshler, Alley, Warner, and Denton (1982) used a Multipass strategy, stemming from the SQ3R strategy (Survey, Question, Read, Recite, Review) to help eight students with learning disabilities in their comprehension of mainstream classroom materials. Student's intelligence scores were within the normal range but the intelligence tests they used were not identified. Reading grade equivalent scores ranged from 4.3 to 7.3 with a mean reading score of 6.0. The Multipass strategy uses three sub-strategies called survey, size-up and sort-out, requiring three passes through a reading passage. In this regard, the three-step strategy is similar to the Reading Recovery programs which ask students to read a prose piece several times until fluency leads to comprehension. Again, a multiple-baseline single-subject design was used. Students successfully applied the strategy to grade level textbook material and improved their grades on classroom tests. Only mean percentage correct pretest and posttest scores on ability level and grade level reading materials are reported. Again, no statistical analysis was performed. No other data is reported except that students improved their class marks to Cs or Bs. The use of Multipass increased success in school through gains in class test scores, improved course grades, and improved regular class teacher perception of performance. However, the intervention was of short duration and the study reports little data that can be used in a comparative sense. Schumaker et al (1982) identify the concern that students reading below a grade four level may be successful with the strategy at ability-level materials but not at grade-level materials. In addition, they question whether other strategies designed to glean information from textbook materials would be as effective as Multipass.

In a review of studies, Deshler and Schumaker (1993) also summarize a study where the Paraphrasing Strategy was taught in a regular English class, replacing regular instruction for a

short time. A multiple-probe design and a comparison-group design were used. Students with learning disabilities who had been integrated into the mainstream classes maintained or exceeded their posttest scores on three of five reading measures. A potential difficulty with an in-class intervention such as this is that most teachers of content curriculum are not willing to take time to teach a special intervention by giving up content instruction time.

Chan (1991) used a self-questioning strategy directed at identifying the main ideas of reading passages. Sixty Australian subjects in grades three to five were taught the strategy over a period of five weeks. She found that students with learning disabilities improved in their ability to identify main ideas and in their ability to generalize the skill to regular classrooms. She concluded that the students benefited from explicit strategy instruction in terms of increasing comprehension skills.

Similarly, Sjostrom and Hare (1984) taught grade nine and ten students how to find the main ideas in reading passages. The students in their study participated in four 75 minute direct teaching lessons on how to find explicit and implicit main ideas. Although students demonstrated increased skill at finding main ideas compared to a control group who participated in vocabulary instruction, Sjostrom and Hare did not find that the students increased in reading comprehension as measured by the <u>Davis Achievement Test</u>. This may be due to the very short duration of the study rather than, as Sjostrom and Hare conclude, that main idea identification is a particular skill that does not affect detail comprehension as typically measured by an achievement test. However, in addition to asking detail questions, many achievement tests do ask a number of main idea questions such as "choose a title for this paragraph", "the topic of this paragraph is ..." or "the main idea of this paragraph is ..." Furthermore, in choosing a main idea, a student must also be able to decide how the details support the main idea and to be able to conclude that the details are not main ideas. This requires active engagement with the text.

Only a few strategy intervention model studies reviewed by Deshler and Schumaker (1993) have used standardized test scores to evaluate reading comprehension gains and achievement success in high school. Deshler et al (1993) report that students who spent 75% of their time in the resource room on strategy instruction gained almost twice as much in basic skills areas, as measured by standard achievement test scores from the Woodcock Johnson, compared to students in other traditional resource room programs (Deshler, Schumaker, Lenz, & Ellis, 1984;

Schumaker, Deshler, Alley, & Warner, 1983, cited in Deshler & Schumaker, 1993, p. 156). In addition, a school district that used the strategy intervention model reported that dropout of grade nine and ten at-risk students had reduced dramatically (Deshler & Schumaker, 1993, p. 157). Knight (1993), in a study of strategy instruction at Humber College also reported that retention rate of students with learning disabilities was 95% compared to a previous 85% retention rate.

Anderson and Roit (1993) describe a strategy intervention whose purpose was to help students aged twelve to sixteen to learn and adapt strategies that would lead to increased comprehension of school informational text materials. The Toronto students who participated in the study were in grades six to ten and were reading below a grade four level. Anderson and Roit used a subtest from the Stanford Diagnostic Reading Comprehension Test to initially assess students. In a comparison of control students (taught by traditional teacher controlled methods) and experimental students (taught using strategies from the Reciprocal Teaching model of Palincsar & Brown), Anderson and Roit indicate that 50% of control students gained in reading comprehension ability and 80% of the experimental students showed gains. Again, statistical data is not reported making the results difficult to interpret or to compare to further research of a similar nature. It is not known whether these students' improved comprehension ability would carry over to other reading materials. Particularly, Chall, Jacobs, and Baldwin (1990) have shown that reading disabled students are not impaired in their ability to comprehend material that is read aloud or shared as in the Reciprocal Teaching model. Listening comprehension is greater than reading comprehension. The success in comprehension and reading ability needs to carry over into the regular, inclusive, classroom where texts are often not read aloud or discussed; silent reading is the norm. A failing of the Reciprocal Teaching model is that few teachers in inclusive classrooms can carry it out with 30 students, ten of whom may be reading impaired. If teacher time is shared equally amongst students (which it is not) then each student may receive two to three minutes of a teacher's attention per class. This is not enough to remediate the difficulties of ten students who may have any combination of lack of word recognition, fluency, and vocabulary knowledge deficits.

It has been shown through these studies of resource room based interventions that individual students or small groups of students with learning disabilities can learn and make effective use of strategies containing a specified set of acquisition steps to improve reading

comprehension (Deshler, Alley, Warner, & Schumaker, 1981; Schumaker, Deshler, Alley, Warner, & Denton, 1982). However, there are several matters of concern in these studies. Wong (1993) reiterates that efficacy data is needed to assess the value of strategy instruction and that will result in the future continuation of strategic instruction. In addition, the sample size is small in all of the studies, not exceeding ten students. This makes generalizability questionable. Generally, care has been taken to identify the characteristics of the students in the studies clearly which means generalization is possible in this regard if the students in other studies have similar characteristics. However, larger studies are needed.

Second, Schumaker, Denton, Deshler, Alley, Ellis, Lenz and others researching the strategies instruction field have used curriculum based assessment, baseline data comparisons, and verbal accounts of teachers to report increases in strategy use and achievement gains. These researchers have not reported statistical analysis or statistical data including actual standardized achievement score increases except to say students may have improved on a standardized achievement tool. A direct comparison of their work through standardized test data is not possible. Furthermore, it is difficult to compare multiple baseline studies using curriculum based assessment to future studies because of the lack of consistency in curricular teaching content and curriculum based comprehension question difficulty. Comparison of curriculum based methods and measures are dependent on the skills and consistency of the teachers. Assessment methods used to evaluate programs should be reconsidered. Regardless of the rhetoric about the use of standardized achievement tests and gain scores, gain scores on a standardized achievement test form a more neutral, less biased, and perhaps more accurate comparison than baseline data does.

Third, there is no information as to whether the interventions have withstood the test of time. Intervention time in these studies was of short duration: only weeks. Research needs to address how long use of the strategies is maintained, and whether a history of failure for these students has more effect on future schooling than the strategy intervention.

Fourth, these studies predominantly took place in resource rooms rather than classrooms (Deshler & Schumaker, 1993, p.156). In response to the inclusion/mainstreaming mandate for all students with learning disabilities, Deshler and Schumaker (1993) do report in their review an attempt to teach a Strategies Intervention Curriculum in a mainstreamed heterogeneous classroom. Aside from positive results, several considerations came out of this study. Concerns included the

fact that students who were high achievers felt resentful about having to tutor low achieving students. In addition, these students could become bored if materials were repeated. Teachers reported rejecting any classwork that high achieving students were not willing to do. Teachers also felt resentful about having to teach skills they felt students should have mastered in elementary school. Their role was to teach the curricular content, not to remediate. Teacher attitudes would have to change from perceiving themselves to be content instructors to being strategic-content instructors, perhaps teaching content through strategy instruction, if strategy instruction is to be successful in the regular classroom. Teachers and students both would have to value the concept of being good strategic information processors to solve tasks and problems (process knowledge) rather than being vessels for declarative knowledge (Deshler& Schumaker, 1993). This may be a difficult expectation to fulfill (Anderson & Roit, 1993; Eisenberg, 1995; Goodlad, 1984). Goodlad notes that teachers and schools are notoriously conservative, fixed, and unchanging in their teaching methods. Eisenberg (1995) has lamented the fact that good ideas for change in the educational system, which he states appear roughly at the beginning of every decade, have gone nowhere. The Year 2000 curriculum is an example. Sutherland, (1995) reports that teaching techniques and textbook methods have not changed since the 1920s.

Strategy instruction also must be systematic, intensive, and performed to mastery level. Rabren and Darch (1996) suggest that future research should examine effective techniques to improve comprehension of content curriculum. This instruction should be direct, explicit, intensive, and should utilize corrective feedback. Time is needed for students with learning disabilities to integrate the strategies; students with learning disabilities need many more practice opportunities compared to average and high achieving students (Bender, 1995; Deshler & Schumaker, 1993). This may create a conflict for teachers and high achieving students. Mainstreamed classes may not be able to provide the time or personnel students with learning disabilities need (Espin, Foegen, Robinson, & Espin, 1996). Special education settings provide more opportunity for intensive instruction and success than do regular contexts with their need for content instruction and a more diverse student population. The ideal, suggested by Deshler & Schumaker (1993), would be inclusive content classes that also teach the strategy model while doing both effectively. Teachers should be encouraged and helped to modify their view of the stress that is placed on content-based curriculum. This would require a change in the curricular

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requirements established by the Ministry of Education. If that doesn't change, however, then a potential barrier to success consists of the very large gap between the skill level of students with learning, reading, and writing disabilities and the setting demands of the regular, inclusive classroom (Schumaker & Deshler, 1984; Schumaker & Deshler, 1988). Based on the findings and results of a few researchers the intervention seems obvious: school should concentrate on programs that will raise the academic achievement of its students with learning disabilities (Weishew & Peng, 1993). The intent of the strategy intervention model is to fill that function.

Test Measurement and Evaluation

Standardized reading tests are an appropriate means of identifying students with reading disabilities who are at risk for low achievement. However, this researcher has found little data in the research literature to indicate that standardized reading comprehension achievement scores have been used to identify students at risk for failure to achieve. Only a few research studies connect behaviour problems, social problems, absenteeism, and early school-leaving with what is essentially a reading disability rather than a learning disability and use standardized test data to do so (i.e., Espin & Deno, 1993a, 1993b). This finding perhaps reflects the failure of regular education teachers to point to reading disability rather than psychosocial problems as a concern related to failure to achieve and needing remediation. Beliefs about poor validity of standardized test data ensures that, in recent years, some school districts have actively rejected the use of standardized assessment in favour of Curriculum Based Measurement (CBM). This stance is also reflected in the research data described below.

There is a large percentage of students who fail in school who can be identified as reading and/or writing disabled. My estimate, based on my professional practice as a junior high school teacher of English, special education, and counseling is at least 30% but I have found no estimate in the Canadian literature. Baker, Kameenui, Simmons, & Stahl (1994) cite the US National Assessment of Educational Progress (1992) reading achievement data which indicates that 31% of eighth graders read below grade level as assessed by standardized assessments. They do not cite a percentile score that defines this reading disability. Rodden-Nord & Shinn (1991) created and used Curriculum Based Measures (CBM) to determine the range of reading abilities that can be found in a typical general education classroom. The CBM consisted of a word list to be read aloud

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and a reading passage to be read orally. The rules for scoring of oral reading were very similar to the Brigance Diagnostic Test procedures. Rodden-Nord & Shinn found that fully 36% of sixth graders read below the grade five median and 19% scored below the 25th percentile for grade five. They also found that about 25% and 20% of sixth graders actually scored below the fourth grade and third grade medians. In a typical fifth grade classroom of 30 students, six students would perform below the third grade median or two years behind. These differences are carried on and are exacerbated at the grade seven and eight level where the deficiencies become even greater.

Espin & Desno (1993a) studied the use of reading aloud from content texts as a curriculum-based diagnostic tool to identify students in need of interventions. They found that basic reading success contributes to academic success. They examined two types of reading disabled students at the grade ten level: those who are generally chronically poor readers (these may consist of those students who have word recognition and fluency problems although they are not identified as such by Espin and Deno), and those who are content-specific or situationally poor readers (these may consist of those students who have generalized vocabulary knowledge difficulties). The latter characteristic might occur in situations such as the reading of a science text with its very specific science-based vocabulary. Espin and Deno identified 30% of the grade ten student population as being generally deficient in reading ability using this curriculum based assessment and, of these, five percent were identified as having a content-specific reading disability. This would indicate that the other 25% of the reading disabled students might be chronically poor readers who experience an inability to use word decoding skills or lack fluency. The cut-off score for a deficiency was set at the 20th percentile.

There were several problems related to the study. First, it examined grade ten students, of whom 8% (n=10) had been identified as needing special services such as for learning disabilities and behaviour problems. This means that those students who have very poor reading skills and suffered failure in grade eight and nine may have already dropped down or out. Secondly, the sample of students was small. Only six of seven students with identified learning disabilities completed all the tasks in the study. Thirdly, the task of having each entering secondary student assessed using a read-aloud methodology can be labour intensive if it is to be accurate. Neither does this type of curriculum-based assessment consider those students who can read aloud well but still have poor comprehension skills. Espin and Deno report a correlation of .64 between the Tests

of Achievement and Proficiency (TAP) reading comprehension subtest and the curriculum-based English read-aloud measures such as reading word lists. This correlation is not high enough to make these CBM methods very useful in predicting students who will have difficulty with comprehension. They indicate that previous studies of elementary and junior secondary school students obtained a correlation ranging from .70 to .90.

In a continuation of the same study, Espin and Deno (1993b) also examined the relationship between reading failure and failure in school. Espin and Deno correlated standardized reading comprehension scores with failing grades. They used the combined pretest and posttest scores of all students scoring in the lowest 20th percentile in the analysis. The correlation between the reading subtests on a standardized assessment (TAP) and school grade point average was found to be moderately high (.57). However, the use of the grade point average does not take into account the fact that grade point average scores can be skewed due to teacher grading systems and class difficulty. For example, the marks a student receives from a learning assistance teacher may be much higher than the marks received from a regular class teacher. This makes the use of the grade point average a less than desirable comparative factor. Number of failed subjects might be a more worthwhile comparison since 85% of all dropouts can be identified based on one or two subjects failed according to Barrington and Hendricks (1989). In addition, to reiterate, the study used a very small grade ten sample; the correlation could have been higher if students who have already dropped out were to be added to the sample.

Espin and Deno call for the use of reliable and valid measurement tools leading to valid decisions regarding remediation for those students who enter secondary school unable to read and write proficiently. Elementary teacher recommendation and curriculum-based assessment have been demonstrated to be only moderately reliable (Espin & Deno, 1993b). Payne and Payne, (1991) found the correlation of teacher assessment of at-riskness and the <u>Iowa Test of Basic Skills</u> <u>Reading</u> was a moderate .47. This only accounts for less than 25% of the variance. According to Payne and Payne (1991), elementary teachers tend to be stereotypically biased and recommend students for remedial skills help who come from low socio-economic backgrounds, who have had previous retention experience, and who have behavioural difficulties. Payne and Payne have also found that, as with the teacher recommendations in the other research studies mentioned above, poor academic history and depressed standardized scores were not considered by the teachers as an

at-risk factor. In addition, Curriculum Based Measures such as read-aloud word recognition lists, which are commonly used, fail to measure comprehension. A student may demonstrate adequate skill in word recognition but may not comprehend or grasp the meaning of what was read.

Assessment leading to appropriate interventions must not only be reliable and valid but must also be efficient and effective at identifying junior secondary students' academic needs (Espin & Deno, 1993a). Measurement devices assessing students at risk for dropping out should be easy, objective and readily available at the school level (Barrington & Hendricks, 1989). Standardized group achievement tests are a fast, dependable method of screening a large group of students entering a junior high school in September, and much less time-intensive than having assessment personnel examine each student individually (Chall, Conard, with Harris-Sharples, 1991). In addition, it may take a classroom teacher two to three weeks to recognize a reading or writing deficiency in a student; it may take that long to collect undone homework and assignments. Some teachers do not recognize a student in difficulty until the end of a semester when a student may be expected to complete a report rather than the fill-in-the-blank question sheets which can be copied from a more able student on the morning it is due or completed over the phone the evening before. The fact that students with learning disabilities are also reading disabled to such a high extent, give standardized reading comprehension scores the potential of fairly accurately identifying students who are at risk for school failure and consequently requesting more thorough assessments in a timely manner and instituting appropriate prevention practices. Group achievement tests should lead to further curriculum based assessment of a small group of at risk students. Standardized assessment in conjunction with absentee rates may be a very effective method of identification. For example, Barrington and Hendricks, (1989) used data from the grade eight level Iowa Achievement Tests to assess what kind of students would be likely to drop out. They found that a cut score of 55 on the composite centile scale identified 70% of the dropouts. Likewise, Levin, Zigmond, and Birch (1985) found they could predict 66.7% of the grade nine dropout students using reading and math achievement scores. The group still attending school at the four-year follow-up had higher intelligence, reading and math scores. They do not indicate what the cut scores were in their study.

Just as few studies in the literature report empirical data using standardized reading comprehension achievement scores, there is little evidence that these tests are used to make use of

specific analysis of reading skills for intervention or placement purposes to prevent dropout. Furthermore, schools generally are reported to be negligent in any kind of data collection that may be used for school based evaluation and decision making processes to further school effectiveness and improvement (Goodlad, 1984). In fact, the only regularly kept data that is part of a student's permanent record (PR) and that moves wherever the student moves are school letters registering complaints against the student and the student report card, which includes course marks, work habit marks, teacher comments, and recorded absences. Few PR files now report standardized test data.

It seems too obvious that standardized reading comprehension achievement scores may fill a reliable, valid, easily done, easily attainable, predictive role (Barrington & Hendricks, 1989). If higher standardized reading scores correlated negatively with learning disabilities, and if at least 51% or more of students with learning/reading disabilities drop out of school (Bender, 1995; Levin, Zigmond, & Birch, 1985) or drop down to special school survival programs but fail to graduate with a Dogwood (Barrington & Hendricks, 1989), then standardized reading comprehension achievement scores can be used to predict who these students are. In turn, the scores can be used to place students into special programs to prevent school failure or potential drop-down into non-graduation tracks. If reading achievement in grade eight, as identified through the <u>Stanford Diagnostic Reading Comprehension Test</u> can be raised, then absenteeism/dropout/ dropdown rates may consequently be reduced. Reading disability can be readily identified by standardized assessment measures. Chall, Conard, with Harris-Sharples (1991) state that standardized test scores fill a useful function in that their ability to predict student ability to comprehend textbooks in common usage is high. Fry makes the same point (Fry, 1989).

Summary

Rush and Vitale (1994) summarize the process of school success leading to a reduction in dropouts. The first step is to identify those students at risk of school failure by identifying risk factors. Then policies and practices need to be in place which specifically respond to the root problems related to these factors in order to prevent dropout. The first item to address is academic failure, specifically reading failure, since reading failure is a crucial variable in achievement failure. Students must be able to read to learn in order to have successful educational experiences. The

ideal is intervention at the elementary level. For students still having academic difficulty, an effective intervention based on accurate assessment must be implemented at the junior secondary level. However, Pelosi (1981), in his historical overview of reading diagnosis and remediation interventions, notes the very limited number of interventions that are actually available to teachers to remediate reading difficulties at all educational levels. In the past they have been limited to various forms of sight word methods, language experience and whole language learning, or sound symbol techniques of reading acquisition. "A core issue remains the shortage of techniques, curricula, programs, and other practices that demonstrably deliver effective educational services " (Epstein & Cullinan, 1983).

The most recent development in the remediation of learning difficulties is strategy instruction. Scruggs and Mastropieri (1993) have described strategies such as inquiry/ discovery techniques to aid students with learning and reading disabilities to increase their knowledge base and as a way of by-passing the reading deficits. However, the necessary attainment of knowledge through the medium of reading is becoming more, not less, important in our culture and society. For example, computers have only added to the amount of material available to be read for school activities and assignments. Those ubiquitous printed words found in textbooks, on worksheets, on CD-Rom discs, on electronic catalogs, or on electronic mail, are still here and are increasing. Students with reading disabilities still must learn to read more effectively to be successful in school and life. Students must be successful in reading and writing to be successful in many work contexts. School instruction must address this area.

There are a number of reasons why students may fail in their ability to comprehend and manipulate information from written materials. These include: (1) inability to recognize, decode, or read words at an automatic level sufficient to make reading easier and comprehensible; (2) processing deficits making it difficult to attend to, organize, and retrieve salient information from the material being read or to monitor the reading process; (3) passive learner behaviour or the experience of a lack of connection or relation with the material being read; (4) lack of vocabulary knowledge (Espin & Deno, 1993a; Stanovich, 1980; Torgesen, 1988). Schumaker, Denton, and Deshler (1984) have claimed that the effective use of the Paraphrasing Strategy enables students to become active participants in the learning process, and helps them retain material to be learned. Most importantly, the Paraphrasing Strategy specifically uses the technique of identifying main

ideas found to be so important in increasing reading comprehension. A number of researchers have demonstrated that students with learning disabilities can learn strategies designed to improve their interaction with textual material (Deshler & Schumaker, 1993).

Some concerns and recommendations for future research were listed in each of the strategy intervention model studies as well as in the work of Palincsar, David, Winn, & Stevens (1991). For example, Palincsar, et al call for further research of strategic teaching and instruction including research of a comparative nature to assess the various methods of strategy instruction. Furthermore, they call for research in the context of real settings and authentic tasks as opposed to laboratory based research. Anderson and Roit, (1993) assert that there is "a pressing need for research that involves practicing teachers and their students. To be fully effective, the research must evolve in ways that recognize the adaptations of strategy instruction necessitated by classroom settings and integrate those adaptations with knowledge of how teachers and students understand strategic reading" (p. 122). In a study of motivation theory and its application in educational settings Uguroglu & Walberg (1986) commented that, "Many theories lack empirical testing in the natural settings of the classroom, and few studies compare rival theoretical propositions in classroom settings" (p. 1). Wong decries the fact that there is still little data to validate the use of strategy instruction in the school system (Wong, 1993). And from a motivational perspective, Vauras, Lehtinen, Olkinuora, & Salonen (1993), referring to the concept of "adaptive necessity" (p. 385), note that strategy instruction must be functional and adaptable in ordinary learning situations to continue to be applied. Torgesen (1988a) calls program evaluation a form of applied research that is important to the learning disabilities field. The classroom is where theories and interventions pass or fail (See also Eisenberg, 1995). Careful evaluation in the classroom environment is a necessity and is the test of validity for theory and knowledge about learning disabilities. Bender (1995) makes a call for classroom teachers to expand their knowledge base and professionalism and to be involved in real classroom-based research which carries with it the potential for peer review and publication. In agreement with Eisenberg (1995), he comments that most research is produced by university and college faculty. Seldom do classroom teachers evaluate their programs and interventions from a research perspective and further have the opportunity to disseminate their discoveries and findings of effective interventions in published form. Sardo-Brown (1992) applauds the entrance of teachers into the research field and describes

action research "as research conducted by the practitioner in order to find a solution to classroom problems" (p. 248).

The Proposed Study.

The thesis of this study is that a Strategies Intervention Model is more effective in ameliorating a reading and writing disability and some of its consequences regarding absenteeism and school failure at the junior high school level than other learning assistance interventions. The Paraphrasing Strategy is expected to have a positive and significant effect on gains in reading achievement as identified by a standardized reading test. It will counteract the cumulative reading deficit learning assistance students experience by improving students' reading comprehension by more than one grade level. The rationale for this approach is that students will learn techniques to cope with mainstream classroom text-based instruction. It will, secondly, improve their ability in writing skills. Students with learning, reading, and writing disabilities who are either taught to read to a higher grade level or who are taught how to comprehend high level reading materials more competently, thereby overcoming a reading disability, will be more successful at, and more prone to stay in, school. They will, as a result, provide fewer problems for society, family, school staff, and the students themselves. Success in school will be identified by an increase in standardized reading achievement scores, a reduction in student absenteeism, and a reduced number of failed subjects.

This study compares the effectiveness of classroom-based strategy instruction and learning assistance as interventions for reading failure, school subject failure, and absenteeism behaviour of grade eight junior high school students with reading comprehension deficits. It employs the Paraphrasing Strategy, based on the theoretical constructs and experimental work of Schumaker, Denton, & Deshler (1984). Specifically, their Paraphrasing Strategy involves using direct teaching techniques to instruct students in a set of three self-instructional steps called RAP (Read, Ask, Put). Reading comprehension is increased through use of this comprehension strategy, which also increases students' interaction with text. Reading achievement and school success for students receiving this strategy instruction is compared with the same measures for students receiving traditional learning assistance interventions.

Four goals lead to the current study of the paraphrasing strategy intervention. The first

goal is to evaluate the effectiveness of this strategy as employed in a school intervention designed to improve the reading comprehension and writing skills of students who are deficient in these skills. A second goal is to assess the effect of the intervention on the number of subjects failed by students with reading/writing disabilities. Third, I wish to assess the effect of the intervention on the absentee rate of students who are learning/reading/writing disabled. Finally, an objective is to assess whether pre-intervention standardized reading scores predict subject failure and school absenteeism.

The study will be conducted with three outcomes in mind: the comparative evaluation of two programmatic interventions for students who have low reading comprehension and a history of low school achievement, the desire to share information with educators/counselors who work with or teach low achieving students, and the wish to positively affect the attitudes of counselors towards students with learning disabilities through this research. The primary goal of this study is to guide programming decisions in the school under study. It will also attempt to add some empirical data to the wider research literature regarding high school interventions for students with poor reading skills, using measures that are of interest to educators. A local study, disseminated to local personnel, will bring to the awareness of learning assistance personnel the efficacy of the typical learning assistance interventions used in high schools which consist of the tutorial/ compensatory/ remedial approach, or the strategies instruction intervention. This study is expected to lead to a change in the approach used by local school counselors when dealing with students who have a learning disability, and may have broader implications for junior high school intervention practices. This study includes research on the most effective intervention that will give students the academic skills they needed most for high school success. It is written to encourage less focus on the symptoms and consequences of poor achievement and to encourage more emphasis on what is suspected to be the underlying cause of poor achievement -- reading disability.

Research Questions

Research Question 1.

Does the Strategy Intervention Model (SIM) <u>Paraphrasing Strategy</u> result in greater gain on the reading comprehension achievement scores of students with learning/reading disabilities than the tutorial/basic skills remediation/compensatory LA approach?

Research Question 2.

How effective is instruction in the <u>SIM Paraphrasing Strategy</u> compared to the tutorial/basic skills remediation/ compensatory approach to reduce the subject failure rate?

Research Question 3.

How effective is instruction in the SIM Paraphrasing Strategy compared to the tutorial/basic skills remediation/ compensatory approach to reduce absenteeism rate?

Research Question 4.

How predictive are standardized reading comprehension scores, absenteeism rates, teacher ratings of student behaviour, and reading achievement gain scores of subject failure?

CHAPTER THREE METHOD

This post hoc study examines information from a junior secondary school computer data base which includes student reading comprehension scores as assessed by the <u>Stanford Diagnostic</u> <u>Reading Comprehension sub-Test</u> (Karlsen, Madden, & Gardner, 1976), (<u>SDRCT</u>) and report card information including student marks for each subject, student attendance records, number of subjects failed, and work habit marks given by the teachers. The study compares the results of the Strategies Intervention Model (SIM) Paraphrasing Strategy to customary learning assistance (LA) intervention which consists of the tutorial, compensatory, and remedial methods as they affect reading achievement, subject failure, and absenteeism, in a junior secondary school (grades eight to ten).

Subjects

The students in this study were from a central British Columbia school district. The district has a student population of approximately 20,000 students of whom approximately 1,300 (6.5%) are of First Nations extraction. School 1 and school 2 were matched for socioeconomic factors, student population, and ethnic backgrounds. Both schools are junior secondary schools, grades eight to ten, and serve mainly middle-class neighbourhoods. The two junior high school populations used in this study average 500 students for grades eight to ten. The number of students in grade eight are approximately the same in each school ranging from 150 to 180 students in any year. Students in the treatment and control schools were mostly Caucasian. On the 1701 forms, collected by the provincial Ministry of Education, approximately 10% of the students were of First Nations extraction and approximately 10% were of East-Asian or Indo-Canadian extraction. There may be inaccuracies in these figures as they are based on self-report.

All students in this study were enrolled in grade eight at the time of the data collection. The students participating in the study were either age appropriate for grade eight (between 12.9 and 13.9 years of age), or one year delayed for grade eight due to elementary school grade retention. The students' ages ranged from 12.9 years to 14.2 years at the time that they entered grade eight. Twenty-seven percent of the student participants in this study were female, with gender ratios the

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same across the four groups.

Intelligence testing is not a normal practice in the school district where this study takes place. The exception is for the identification of mentally handicapped students. Therefore, Intelligence Quotient (IQ) scores for the general school population were not available. It can be assumed that if the students did not receive IQ testing then the students were considered to fall within the normal intelligence range. None of the students in this study were classified as physically or mentally handicapped.

Subject Selection

This post hoc study used a quasi-experimental pretest-posttest control group design. This study used intact groups of students whose membership in the intervention classes was determined by elementary teacher recommendation, curriculum based assessment, and standardized assessment. Random sampling was not a possibility in this study. It is considered ethically unsound to offer an intervention program to some students in need and not to others as would be required by an experimental study where participants for the experimental group and the control group would be randomly selected.

The study involved three groups: two treatment groups and one control group. The Strategies Intervention Model (SIM) and Learning Assistance (LA) interventions were conducted with students who, on standardized achievement measures, demonstrated a reading deficit. Exceptions were made at the urging of the grade seven teachers and parents to include those students with adequate reading skills but exhibiting extremely poor writing skills. However, most of the students scored below a preset cut score set at the 30th percentile on the <u>SDRCT</u>, (raw score 43, grade equivalent 6.6). A bottom cut score at the 5th percentile (raw score 16, grade equivalent 3.1) was also used to eliminate students below this score from the strategy intervention class. Participants in the study usually demonstrated a reading comprehension deficit from 1.4 - 4.9 grade levels according to the <u>SDRCT</u>. Group pretest mean grade equivalent scores on the <u>SDRCT</u> for the SIM, LA, and No-LA groups were 5.6, 5.2, and 6.1 respectively.

1. (SIM) Group School 1

The study evaluates the reading achievement performance of two groups of students receiving the SIM intervention. These groups were in place, receiving the intervention, before this

study was conceived. Forty-eight students were initially slated to participate in the SIM Paraphrasing Strategy (1984). Normal SIM class size may range from 24 to 27 students. Two groups of 24 students each were placed in a year-long class, the first group during 1993-94, and a second group during 1994-95. Of these 48 students, seven were lost through transfer to another school, and seven others were absent on the post-test date. This totalled 34 students tested over the two years with the <u>SDRCT</u> as both pre-test and post-test. Also, during the second year, one student was identified as mentally handicapped. The data of the mentally handicapped student was eliminated from the data analysis although the student remained in the class and received separate instruction in an adapted curriculum. The final analysis used the scores of 33 students.

Despite some heterogeneity in the sample all students had an identified reading and/or writing disability as measured by the <u>SDRCT</u> and a curriculum based narrative writing sample. Most students participating in the intervention demonstrated word recognition and comprehension ability between the grade four to grade six level. This gave these students sufficient, although limited, expertise in word recognition of a basic vocabulary necessary to use the Paraphrasing Strategy. The SIM classes were taught by two special education teachers in a team teaching model; one was the school LA teacher and the other was the researcher of this study. Neither the LA teacher nor the researcher knew this study would be carried out during the time of the strategy intervention. Both teachers took equal responsibility for class management, lesson planning, and instruction although the researcher mainly managed and taught the SIM curriculum. The LA teacher took major responsibility for the writing component of the curriculum. Aside from the researcher the teachers in the schools were blind to the study.

2. LA Group School 1

During the 1995-1996 school year, special education staff and administrative staff decided to offer LA class intervention rather than a SIM intervention. Some district staff members believed that LA might be better for students in need than SIM since LA addressed curricular needs in a more direct fashion and to a smaller group of students. A group of students identified by the same principles as used for identifying the SIM groups participated in LA classes (n=19) which used the tutorial/basic skills remediation/ compensatory approach. These students manifested the same characteristics as the previous treatment group in that they were identified for participation in LA via elementary teacher recommendation, the standardized test scores, curriculum based assessment, and parent approval.

The use of adapted materials and tests is a commonly employed LA approach in the attempt to help these adolescents with learning disabilities attain competency in tests for content based materials. The LA teacher compensated for students' reading disability by using simplified vocabulary sheets of subject content information as a study/tutoring device with the students in LA. Tests, such as those of social studies and science, were rewritten with adjusted vocabulary levels. In addition some students participated in oral rather than written tests and examinations. In this case the LA teacher pulled the students out of the regular classroom and read the test aloud to the student. Remedial instruction in comprehension, spelling, grammar, punctuation, and narrative and descriptive writing, using worksheets from common publishing companies, were given to the students. Tutorial assistance in the writing of homework assignments was also given. Additional study included lessons in study skills, test taking skills, and organizational skills. Class size in the LA room did not exceed eight students per class.

3. LA Group School 2

Treatment group three consisted of students (n=16) at the second junior secondary school who received LA during 1995-1996. Of 29 students in this school's LA program five were absent on the day of the post-testing and nine were absent from both pre- and post-testing. One student of the 16 was dropped from the analysis because the student's <u>SDRCT</u> pretest score was below the 5th percentile. This created a group of 15 LA students who could be compared to the treatment group. Four of the 15 students were scheduled in LA for two out of eight blocks, experiencing LA for double the normal amount of time.

As with the students in the other treatment classes, the students in this group were identified for membership in the LA classes by grade seven teacher recommendations. The pretest mean score of this group of students is somewhat higher than the other three groups. This is attributed to the fact that some of the students who scored low on the <u>SDRCT</u> were not included in the recommended list for remediation or tutorial assistance by their elementary school teachers and a greater number of higher scoring students were recommended for assistance by the grade seven teachers. Six of the 15 students (40%) had reading comprehension scores above the 30th percentile but below the 62nd percentile. These students received tutorial assistance and/or study skills classes similar to the LA group from school 1 above.

4. The No-LA group

The No-LA group consisted of students selected from the two junior high schools who were not given LA during their grade eight year (1995-1996). The No-LA students were assessed using the <u>SDRCT</u> in the same manner as the SIM and LA groups, but they received no treatment intervention. The membership of the No-LA group was determined solely through standardized achievement test data. The students were matched with the SIM and LA treatment groups by using an <u>SDRCT</u> pretest cut score between the 9th and the 37th percentile. These No-LA students received no intervention because they were not identified by their elementary teachers to need intervention from learning assistance. These students demonstrated similar deficits in reading comprehension ability according to the <u>SDRCT</u>.

Due to absenteeism and family mobility only 16 students from School 2 could be identified for this group. Even though 62 of the grade eight students in school 2 had been identified as reading between Stanines 1 - 4, and 48 students read below the 33rd percentile, most of the students reading below the 33rd percentile who had had no LA had either moved (n=13) or were absent (n=11) at the time of the posttesting. Ten of these 48 students were in LA. Only 16 students remained who had scores below the 37th percentile and could make up the membership in the No-LA group. Another 17 students came from School 1. A No-LA control group could not be made up solely of students from School 1 because ten students who would have been appropriate for membership in a control group moved, transferred to another school, or were pushed out before the end of the year. These ten students had a mean grade level score of 4.9 on the pretest.

Limitations

Research in the public school system is held under several constraints including ethical practice and subject selection, thus limiting the type of research design, specifically experimental research, on school children. Practice is based on what each teacher and administration believes to be the best for children, sometimes, regardless of what any research might say. Teachers have a great deal of autonomy, within professional limits, to decide what the best teaching materials and techniques are. These considerations limit much of the research taking place in schools to a quasi-experimental form because often selection to classes is not random. Although comparability of intact groups is an experimental issue when conducting school-based research, the composition of

the four groups reflect the true nature of intervention in real school settings. Comparability of the groups will be addressed in the analysis of the data.

Procedures, Measures, and Materials

The study compares the results of the SIM Paraphrasing Strategy intervention to customary LA intervention through the effects of these two interventions on reading achievement gains as identified by the <u>SDRCT</u>, subject failure rate, and absenteeism rate, of students participating in the study. As well as student reading comprehension scores (<u>SDRCT</u>) other information taken from the school data base included computerized report cards indicating student attendance records, GPA scores, grades, number of subjects failed and work habit observations.

Survey Information

Elementary teacher recommendations regarding LA placement were requested for every student entering grade eight at both the treatment school and the control school. Administrative staff, LA staff, and counselors met with the grade seven teachers in May or June of each year to obtain information regarding academic achievement and behaviour of each grade seven student. Elementary teachers also completed a two-page survey detailing the strengths, weaknesses, academic and behavioural characteristics of each grade seven student. This information is kept by the LA teacher and is accessible to every teacher in the school. It is used to narrow selection of students to LA programs in the schools. Elementary teachers' recommendations carried the most weight in the decision making process for special LA placement of students.

The Stanford Diagnostic Reading Comprehension sub-Test

Parker (1993) has stated that assessment of strategy instruction is difficult since the tools for evaluating the learning performance of a strategy is still lacking. Concern with valid and reliable assessment has been expressed in the literature. However, a legitimate method of assessing the effects of learning outcomes within the paraphrasing strategy model is the use of traditional achievement tests (Parker, 1993). Akin to the goals of the paraphrasing strategy, whose student learning outcomes involve the students' ability to identify main ideas and details in paragraphs, the <u>SDRCT</u> tests student ability to define vocabulary in context, to identify main ideas, and to recognise literal and inferential details. What the <u>SDRCT</u> cannot do, is evaluate student use of a strategy model. However, Deshler and Schumaker (1993) demonstrated that students with learning disabilities can learn to use a strategy effectively. Their follow-up testing with each step of the model showed that students gained mastery of the strategy steps. So, while a gain in <u>SDRCT</u> scores does not directly measure strategy use, it nevertheless provides a strong test of the intervention's outcome by measuring reading comprehension, the ability the strategy is designed to remediate.

In addition to other forms of curriculum based measurement, the Reading Comprehension subtest of the <u>SDRCT</u> is used routinely in school 1, the strategy treatment school, to obtain a measure of all the grade eight students' reading comprehension achievement level. The test measures are collected twice a year, once in June of the students' grade seven year and a second time in May-June of the grade eight year. The <u>SDRCT</u> is used to identify those students with the lowest reading comprehension achievement scores ranging from Stanines 1 to 4. The elementary teachers are faxed the scores of their students and are asked to verify the perceived accuracy of the scores. The scores become part of a test data bank that is kept on every student entering grade eight in the treatment school and are regularly considered in placement decisions. Scores are recorded as raw scores, stanines, percentile ranks, and grade equivalents. The <u>SDRCT</u> is administration. Standardized achievement assessment of a grade eight population is not a standard practice in the district, however. The grade eight students in the control school, School 2, were tested twice only for this study, once in June, 1995 and again in May, 1996.

Writing Samples

The students in School 1 were asked to give a narrative writing sample from a sub-test of the <u>Test of Written Language</u> (<u>TOWL</u>). This was assessed using the <u>TOWL</u> paragraph writing criteria as well as by a subjective examination of handwriting deficits that needed to be addressed. The <u>TOWL</u> writing sub-test was used to measure writing ability of the students for placement decisions although it was not used in a final assessment of student ability at the end of the intervention year. For this reason writing ability was not included in the evaluation of the results of this study.

The Paraphrasing Strategy

Materials for the treatment group consisted of the strategy intervention model (SIM) curriculum Paraphrasing Strategy of Denton, Deshler, and Schumaker, (1984). The researcher

was taught the strategy intervention model at a summer institute at the University of British Columbia in 1986. The paraphrasing strategy has been used by this writer during the years from 1986 to 1997 with adolescents who have learning/reading disabilities.

The Paraphrasing Strategy took place in a regular classroom setting (as opposed to a resource room setting) for a full year, totalling approximately 85 - 90 hours of instruction. As a consequence of timetable rotation, the students met with two special education teachers of the class every second school day for 55 minutes. These students took the SIM class by being excused from a French eight class. All other programming for the students consisted of standard inclusive placements and regular grade eight curriculum.

The instructional procedures as outlined in <u>The Paraphrasing Strategy</u> manual were followed for all the lessons in the first 20 weeks of the school year. In the Paraphrasing Strategy, using the RAP acronym (Read, Ask, Put -- Read a paragraph; Ask what is the main idea and important details; Put the main ideas and details in your own words), students are taught to read to look for the main idea of paragraphs, to ask questions to find supporting details for the main idea, and to write out the main idea and details in their own words. SIM students were only given worksheets of multiple choice questions as a final check of comprehension for each story. These question sheets filled an evaluative role for the teachers to determine whether the stories were too easy or too difficult.

Students first practice the RAP strategy on ten ability-level texts. Therefore, the first ten expository stories used were written at the students' mean grade four reading level. Of these ten stories, the first five were read aloud to the students to train the students in listening skills and notetaking while they were also learning to RAP the stories. The paragraphs were only read twice. This listening training is an adaptation of the Paraphrasing Strategy. I have introduced it for three reasons. First, students' listening vocabulary is greater than their reading vocabulary, therefore, mental capacity was not occupied as much with decoding words while learning to RAP information by looking for main ideas and details (Chall, Jacobs, & Baldwin, 1990). Second, students had to learn to make one- or two- keyword notations in the margins of the RAP sheet to remember details and what the paragraph was about. This encouraged one-word notetaking strategies through the use of keywords. Outlining and notetaking, common requirements expected of students by high school teachers (Bianco & McCormick, 1989), was taught incidentally. Third, this method

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ensured that students could only paraphrase the text since they could not memorize paragraphs verbatim. Cognitive interaction with text was encouraged by this means; the students could not remain passive in their relationship with the text. Each student could also discuss the contents of the paragraphs with his or her partner.

The second five stories were shown to the students using an overhead projector so that students could follow along with the reading and so that the teacher could isolate paragraphs of the stories. This was intended to teach the students to use books and to transcribe ideas without copying or plagiarizing. Also, the students were taught paragraph structure, using this process. Finally, the projected paragraphs could be referred to by the students to check spelling.

The second ten expository stories were written at the students' Grade Eight level. These were given to the students on the overhead projector. Reading materials written at the students' reading and grade level included the reading series from <u>Science Research Associates:</u> <u>Individualized Reading Skills Program</u> (1970) - Orange (grade 4) and Blue (grade 8) Level, (now out of print). Reading materials also included text written at the students' grade level and included published Ministry of Education approved textbooks, textbooks from the students' core curriculum classes, and non-fiction library books such as encyclopaedias and reference books. In addition, the RAP skills learned in the intervention class were generalized to English and social studies lessons by the Humanities teacher who used the RAP to help students make notes in the Humanities classes.

Because this was a year-long class, brief units of interest to encourage generalization of the strategy were interspersed throughout the year for two-week periods. These breaks included a unit on a Medieval Christmas to support the Social Studies 8 curriculum; it occurred at a natural break when the ability level readings were completed and before grade level readings began. Another unit consisted of poetry at Easter, while a third consisted of short stories in May.

The Writing Strategy

Using the suggestions for simplicity recommended by Ellis, Deshler, and Schumaker, (1989), the techniques of the Paraphrasing Strategy were used to benefit both reading and writing disabilities. In response to the notion that the less complex the approach, the better students will learn and use it (Anderson & Roit, 1993), only one strategy was taught and students were shown how to adapt and personalize it. The single paraphrasing strategy was used in two different ways

to reduce memory demands on the students. A teacher-created adaptation of the Paraphrasing Strategy and a remedial writing program based on the Paraphrasing Strategy model and procedures was used to teach paragraph and essay writing during the second 20 weeks of the school year. The RAP acronym with the procedure of the paraphrasing strategy is simple and straightforward. The writing strategy created is essentially the RAP strategy in reverse. It follows upon a brainstorming session of ideas of prior or new knowledge on a topic of interest to the students or a topic associated with curricular studies: Put all the ideas into categories; Ask yourself, what is the main idea and what are the details of the category; Record the main idea and details in a paragraph using your own words (PAR).

The students were taught to rewrite the paraphrases of the stories and curricular materials they read into essays of varying lengths. They were encouraged to add their own prior knowledge to each paragraph as well as to RAP increasingly complex and difficult articles from encyclopaedias and reference books as information from these sources could be added to the essays. Eventually, students were taught to write an introductory paragraph outlining what the essay was about and to make an interesting topic sentence or thesis statement. Finally, students were taught to add a concluding paragraph in which students summarized the essay, expressed their opinion about the topic of the essay, and added a question of interest they would like to know the answer to. These questions led to further research and essay writing using library books. Students were also taught to RAP informational and documentary videos. The students eventually wrote an essay for their social studies or science class using library information which was accepted for credit by their teacher.

Ethics

The procedures and content of the SIM and LA classes were explained to the parents by telephone and letter and parent input and approval for special education placement was obtained through a supporting letter. Written parental consent was obtained prior to placement in the SIM or the LA classes. These data were collected as part of normal school recording procedures. Permission to test the school 2 students with the <u>SDRCT</u> was sought from the parents or guardians of the students. The procedures and content of the study were explained to the parents of School 2 students through a negative response letter mailed to each child's parents or guardians

by the feeder elementary school. Parents were asked to return the signed letter only if they did not wish their child to be tested. All but one parent of all the grade seven students allowed their children to be tested. Furthermore, written consent to do the study and test the second control school during June 1995 was obtained from the School District, school administrators, teachers, parents, and the university ethics committee. Written consent was also obtained from the school district to use the data of the treatment and control groups in the data bank at the study schools.

CHAPTER FOUR RESULTS

The following major research question was asked in this study. For students with learning or reading disabilities, what are the effects on reading comprehension, as measured by the <u>Stanford Diagnostic Reading Comprehension Test (SDRCT)</u>, when students are taught to use the Strategy Intervention Model (SIM) <u>Paraphrasing Strategy</u> as compared with the effects of traditional intervention employing tutorial/basic skills remediation/compensatory approaches? Secondary questions included the following. How effective was instruction in the <u>SIM</u> <u>Paraphrasing Strategy</u> compared to the tutorial/basic skills remediation/ compensatory approach to reduce the subject failure rate? How effective was instruction in the SIM Paraphrasing Strategy compared to the tutorial/basic skills remediatory approach to reduce absenteeism rate? How predictive are standardized pretest reading comprehension scores of subject failure and absenteeism?

To examine each of these questions this analysis began with some exploratory graphing methods and descriptive statistical analysis. Then, to compare test measures, t-tests and analysis of variance (ANOVA) were used on reading comprehension pretest scores, reading comprehension gain scores, absenteeism rate, and subject failure rate. The t-tests were first used to determine whether the two SIM groups could be combined and whether the LA groups could be combined. Later t-tests were used as a post hoc test when a significant <u>F</u> value was found and compared the effectiveness of the SIM, LA, and No-LA instruction, as well as the subject failure rate and absenteeism rate of the three groups of students. Furthermore, partial correlations were run to examine the relationship between the variables believed to influence failure to achieve in school. The partial correlations were examined to identify those variables with the most influence on failure rates and to examine the degree of association between gain scores, pretest scores, absentee rates, and failure rate was affected by the pretest scores, the rate of absenteeism, the students' behaviour, and the reading comprehension gain scores to predict performance of future students. The alpha level for all analyses was set at .05.

The use of gain (change) scores to evaluate the effectiveness of interventions has been

maligned in books and articles during the last 20 years. They are deemed to be an unfair, unreliable and invalid measure of change. In contrast, in a recent review of the psychometric literature and papers cited in this literature, Zumbo (1997) notes that although change scores are limited in some contexts they are not inherently flawed. Zumbo notes, for example, that critics of change scores recommend the use of a split-plot ANOVA (i.e. with between- and within- subjects factors); however, this ANOVA explicitly involves the use of change scores, and the test of interaction (which is the focus of this analysis) is mathematically equivalent to the use of change scores. Whether split-plot ANOVAs or analysis of change scores are used, the F statistic of both tests approach equivalence.

In addition, Zumbo has argued that the assumptions usually cited to be associated with the measurement of change scores (inaccurate measurement procedures, ceiling and floor effects, the measurement procedures used to determine true change, the need for equivalence of variance and reliability scores, and the need for homogeneity of change resulting in high correlations) are based on rigid mathematical assumptions or conditions. Rather, Zumbo has defended the use of change scores by challenging these parameters associated with analysis of change scores. Zumbo (1997, p. 9) states that "When [these] five conditions are relaxed, the reliability of the difference score is adequate". These conditions may be relaxed when it can be demonstrated that care has been taken to use accurate measurement procedures; when it can be demonstrated there is no floor or ceiling effect affecting the measure of change; that there is a positive correlation between pretest and change (therefore not in a regression towards the mean position which occurs when the correlation is negative); when reliability can be demonstrated because of heterogeneous (SD > 0) rather than homogeneous (SD = 0 therefore no true variability) change; when the reliability coefficient increases due to heterogeneous change since homogeneous change creates lowered reliability. He states: "...it is clearly advantageous to use the difference score when there is heterogeneous change, such as that evident when rho (T_1, T_2) is negative and moderate in magnitude" (p. 7). (For a more detailed discussion see Zumbo, 1997).

To address the question of the use of the gain score as a valid indicator of change in this study, a correlation was run on the pretest and posttest scores of the <u>SDRCT</u>. The correlation between these two variables for the SIM group was moderate (r = .54) as deemed suitable by Zumbo. The same correlation for the LA group was higher (r = .81) indicating that pretest scores

and posttest scores were more highly and consistently associated for the LA group than for the SIM group. The LA students experienced a more linear and consistent change indicating the lack of influence of an intervention. Clearly, gain scores are able to effectively demonstrate that interventions have had significant effect. In this study a 3X1 (treatment groups by gain score) analysis of variance (ANOVA) using pretest to posttest simple raw gain scores was used to test the effects of the interventions.

For analysis purposes, raw scores on the standardized assessments were used, however, grade equivalent scores were retained for dissemination purposes since much data in the literature, which are directed at teachers, are reported in grade equivalence scores. In addition, many classroom teachers are familiar with descriptive statistics such as mean and median scores but they rarely work with standard deviations, stanines, percentiles, standard scores, and inferential statistics. Furthermore, the raw scores of the <u>SDRCT</u> have less applied meaning than grade equivalent scores do. Although there are difficulties inherent in the interpretation of grade equivalent scores, and even though many teachers often don't fully understand the meaning of the grade equivalent score, they are the one score that teachers are familiar with and that are therefore useful to teachers. Therefore, raw scores were converted back to grade equivalent scores for the interpretation of data.

Analysis of the Independent Variables

In the first step of analysis, the reliability of the <u>SDRCT</u> pretest and posttest scores were examined. Scatterplots were used to determine whether there were any outliers in the three treatment groups and one control group. As a result, the data of eight students at school 2, who were members of a behaviour resource transition 8 class, were dropped from the analyses, two from the LA group and six from the No-LA group. It was evident, upon visual examination of their scores, that these students had only partially completed the posttest of the <u>SDRCT</u> or had simply marked the answer key in a sequential fashion (i.e. a, b, c, d, a, b, c, d, etc.). The teacher reported that these eight students had complained about having to do the testing because they were not getting paid. Thus, their posttest scores did not represent a valid measure of their reading comprehension. The conservative option was taken and the students' scores were removed from analysis. One student in school 2, whose <u>SDRCT</u> pretest score registered below the first percentile, was also dropped from the analysis. Subsequent exploratory analysis using Microsoft

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Excel for Apple Macintosh 5.0 (1995) showed that <u>SDRCT</u> pretest data, with these outliers omitted, met the criterion of approximating normal distribution.

Next, the <u>SDRCT</u> data of the complete Grade eight classes in School 1 and School 2 were examined (see Table 1). Total mean raw scores, standard deviation scores, and grade equivalent scores were calculated for the total grade eight populations at pretest and posttest times. The data of new students entering the school during the course of the school year were not included in this analysis because their pretest scores were not obtained within the same time frame as the other students. Nor was it possible to obtain scores from students who dropped out or moved. Past data analysis has demonstrated that the mean pretest scores of students arriving is similar to those leaving and is close to the population mean. Mobility and absenteeism are reflected in the reduced population tested at posttest time although the total school populations, with movement in and out, remained relatively stable. The mean pretest scores taken from School 1 and School 2 during the

Table 1.

Mean Raw Scores, Standard Deviation Scores, and Grade Equivalent Scores on the SDRCT of Total Grade 8 Populations in School 1 and School 2

		Pretest				Posttest			
Group	N	Raw	SD	GE	n	Raw	SD	GE	GE diff.
1993-94 School 1	(160)	50.4	9.3	7.8	(115)	53.0	8.1	8.6	0.8
1994-95 School 1	(187)	50.0	10.4	7.8	(130)	53.5	7.6	8.9	1.1
1995-96 School 1	(1 99)	47.2	11.7	7.3	(144)	51.1	9.4	8.0	0.7
1995-96 School 2	(163)	47.7	11.0	7.5	(103)	52.4	9.9	8.3	0.8
1996-97 School 1	(155)	46.6	13.2	7.3		n/a	n/a	n/a	n/a

Note. The maximum raw score on the SDRCT is 60.

1995 - 1996 school year indicate that the grade seven populations entering grade eight in both School 1 and 2 obtained similar pretest scores on the <u>SDRCT</u> and can be considered to come from similar populations (see Table 1). Of four years of testing, a significant decline in <u>SDRCT</u> pretest scores over the last two years at school 1 has been noted <u>F</u> (3, 696) = 5.05, ($p \le .002$) while the variance appears to be increasing. It is not known whether School 2 experienced a similar decline in scores since standardized assessment is not a normal occurrence in School 2. Of further interest is that the posttest scores, which usually show a grade equivalent gain of less than 1 year, may reflect the stress experienced by grade eight students of moving from an elementary system to a high school system. Considering that, as a group, these students are on target according to <u>SDRCT</u> norms when they leave grade seven, they appear to have experienced a relative reduction in reading ability by the time they have completed grade eight; they do not gain at a normal rate of one year in reading ability during their grade eight year. The pretest to postest scores in Table 1 indicate that the school gain is greater than one year only during the 1994 - 1995 school year when the SIM students gained 1.6 years in reading comprehension ability thus pushing the school-wide mean posttest scores up and the variance down.

The data from Table 1 indicates that the school-level scores on the <u>SDRCT</u> are near to reaching ceiling effect. The purpose in testing students in school 1 with the <u>SDRCT</u> is to identify those students who are functioning in the lowest percentile range; those students who are functioning in the top percentile range are not a particular concern in terms of the goals for identification of students. For example, methods for identification for enrichment programs does not include the use of standardized test scores. Therefore, a standardized assessment is used that will accurately assess and identify the low functioning students. The <u>Stanford Diagnostic Reading</u> <u>Test - Brown (SDRCT</u>) is designed to accurately measure the reading performance of students between grade four and eight and is also recommended by the authors to assess older, low-functioning students who have reading disabilities. To accurately assess higher functioning students is not a concern, the <u>Stanford - Brown</u> is used to obtain reliable and valid scores for the low ability students. Thus, the ceiling effect does not influence the validity of the scores of the low ability students in this study. The validity and reliability of the <u>SDRCT</u> is verified by the fact that, for two years, the mean raw scores of all students in school 1, were near

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the mean identified by <u>SDRCT</u> normed data and where the students should have at the end of grade seven.

Following the initial examination of the <u>SDRCT</u> scores, a two-tailed t-test was run to examine the pretest scores on the <u>SDRCT</u> of the two Paraphrasing Strategy Intervention (SIM) classes. Based on the t-test (t = 0.50, $p \le .62$), the two strategy intervention groups were considered to be equivalent and were combined into one group for analysis of gain scores. A second t-test was run on the pretest scores of the two Learning Assistance (LA) classes from the 2 schools. Again, the pretest scores were not significant (t = 1.98, $p \le .057$). Therefore, the two LA groups could also be combined for a final analysis. A t-test examining the pretest scores of the

Table 2.

Pretest and Posttest Scores on the SDRCT for the SIM and LA Intervention Groups and the No-LA Control Group.

			Prete	st				Posttest	
Experimental Groups*	<u>n</u>	Raw	<u>SD</u>	<u>G.E</u> .	range	Raw	<u>SD</u>	<u>G.E</u> .	range
1993-95 SIM	33	36.0	8.2	5.6	17-55	44.8	8.7	6.9	23-59
1995-96 LA	34	36.3	9.5	5.6	16-56	40.4	12.3	6.1	16-59
1995-96 No-LA	31	35.9	7.2	5.6	21-47	42.2	7.8	6.5	14-54

* Strategy Intervention Model (SIM) groups were in School 1, and the Learning Assistance (LA) groups and No-LA control group were in Schools 1 and 2

No-LA group and the SIM group indicated no significant difference between the two populations $(t = 0.07, p \le .95)$. A 6 X 1 (group by pretest score) ANOVA was also run to examine differences on the pretest scores of the uncombined groups: two SIM groups at school 1, the two LA groups at school 1 and 2, and the two No-LA group at School 1 and 2. No significant

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differences were found on the pretest scores of the six groups $\underline{F}(5, 92) = 2.06$, ($\underline{p} \le .08$). All groups of students could be assumed to come from a similar population sample.

Comparative Analysis of Interventions as Measured by the SDRCT

One purpose of this study was to evaluate the efficacy of the SIM intervention compared to typical LA intervention. Gain scores in reading comprehension achievement on the <u>SDRCT</u> were used to examine the effectiveness of the SIM, the LA, and the No-LA control group interventions to improve reading comprehension ability. Gain scores were calculated by subtracting the pretest score of each student in each group from their posttest score. Therefore, a positive gain score reflects an increase in reading comprehension. An 3X1 (treatment group by gain score) ANOVA was run to assess whether the differences in gain scores of the three groups were significant. The mean <u>SDRCT</u> pretest and posttest raw scores, standard deviations, range of scores, and grade equivalent scores, of the SIM groups, the LA groups, and the No-LA control group are presented in Table 2.

Mean SDRCT Gain Scores, Range Scores and Grade Equivalent Difference Scores Group Mean Range Grade equiv. n gain of gain difference 1993-95 SIM 8.8* -7 - +21 33 1.3 1995-96 LA 34 4.1 -13 - +15 0.6 1995-96 No-LA 31 6.3 -9 - +15 0.9

* $p \le 0.02$.

Table 3

On the basis of the information from the t-tests of the pretest scores indicating the groups to be from similar populations, a 3X1 ANOVA was run on the combined gain scores of the two SIM groups, the combined scores of the two LA groups, and the combined gain scores of the No-LA group (See Table 2). The results from the ANOVA indicated a significant difference existed in the three treatment groups' reading comprehension gain scores $\underline{F}(2, 95) = 3.86$, ($\underline{p} \le .02$). Table 3 shows the mean gain scores of each group of students in the study, as well as the mean range of gain scores, and the mean difference scores in grade equivalents.

Table 4 gives a summary of the ANOVA data on the gain scores. Three t-tests then were run to compare the SIM group to the LA group, the SIM group to the No-LA group, and the LA to the No-LA group, to test which group difference was significant. The SIM group was found to be significantly different from the LA group (t = 2.63, $p \le .01$) with significant gains in reading comprehension. The SIM group was not significantly different from the No-LA group (t = 1.42, p $\le .16$). Neither were the LA group and No-LA group found to have a significant difference in gain scores (t = 1.40, $p \le .17$).

Table 4

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Analysis of Variance for 3 Treatment Group Gain Scores on the SDRCT

Intervention Groups	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Between groups	384.52	2	192.26	3.86*
Within groups	4728.51	95	49.77	

*p ≤ .02

To test the magnitude of the difference in gain scores for the SIM, LA, and No-La groups, effect size of the pretest to posttest scores was calculated for the SIM group ($\Delta = 1.07$), the LA group ($\Delta = 0.43$), and the No-LA group ($\Delta = 0.87$). Reading comprehension improved by more than one standard deviation for the SIM group but not for the LA and No-LA groups. Effect sizes for the school populations were: 1993-94 ($\Delta = 0.28$), 1994-95 ($\Delta = 0.34$), 1995-96 School 1 ($\Delta = 0.33$), and 1995-96 School 2 ($\Delta = 0.43$)

Absenteeism

The second question to be examined in this study concerned the rate of attendance in the SIM classes and the LA classes and how the interventions in each class might have affected the attendance behaviour of students. Two types of absentee data were collected from the two schools. This included a one-time attendance check and an individual attendance check. The One-time Attendance Check

Table 5 records a one-time absentee rate that was collected for students who read below the 39th percentile on the <u>SDRCT</u> (n = 62) and those who read above the 40th percentile (n = 100) but who were not present to write the posttest of the <u>SDRCT</u>. On the day of posttesting at School 2 (a Thursday morning at 10:00 AM in May), 48% of the students in the LA class at School 2 were absent and 41% of students who were poor readers as identified through the <u>SDRCT</u> (percentile score \leq 39), but who did not participate in LA, were also absent.

Table 5.

One Day Sampling of Absences from Posttesting on the SDRCT

<u>n</u>	Abs.	Percent
42	8	19%
31	15	48%
27	11	41%
72	07	10%
	<u>n</u> 42 31 27 72	<u>n</u> Abs. 42 8 31 15 27 11 72 07

Further, 19% of SIM students were absent on posttest day. On the other hand, 10% of those students who had reading comprehension scores above the 40th percentile on the SDRCT were absent on the day of the posttest. School 1 and 2 both record a monthly attendance range from

93% to 98% indicating that the students who are absent most often are those whose reading comprehension scores register below the 39th percentile. Extreme winter weather conditions occasionally inflate absenteeism.

Similar one-time data of the LA class was not collected for School 1 because <u>SDRCT</u> testing for this group is completed over the course of a week and attendance on a particular testing day was not tracked.

The Individual Attendance Check.

An individual student record of absenteeism was obtained from both School 1 and 2. The schools' computer absentee data was used to tally the daily absentee rate for students in the SIM classes, the LA classes and the No-LA control group. The daily attendance data is recorded in Table 6.

Table 6.

Mean Rate of Absenteeism, Rate of Subject Failure, and Behaviour Score of SIM Students, LA Students, and No-LA Students at School 1 and 2.

		Days	Absen	t	Subjects Failed			Behaviour		
Group	<u>n</u>	Mean	<u>SD</u>	Range	Mean	<u>SD</u>	Range	Mean	<u>SD</u>	Range
SIM	33	9.7	8.8	0 - 31.5	2.0	2.0	0 - 7	14.0	6.9	3 - 30
LA	34	14. 0	9.9	0 - 40.5	2.4	2.2	0 - 7	1 2.9	7.7	1 - 28
No-LA	31	8.4	7.0	0.5 - 26.5	1.3	1.8	0 - 6	16.1	7.0	4-31

A 3 X 1 (groups by absentee scores) ANOVA was then run on the absentee scores of the SIM group, the LA group, and the No-LA group. The ANOVA (see Table 7) showed a significant difference in absenteeism between the three groups, F(2, 95), 3.74, ($p \le .03$). Although the SIM students demonstrated better attendance than the LA students (they attended an average 4.3

days more often than the LA students) a t-test comparing SIM absenteeism to LA absenteeism did not indicate a significant difference between the two groups (t = 1.86, $p \le .07$). Furthermore, no significant difference was found between the SIM and No-LA absenteeism rate (t = 0.70. $p \le$ 0.49). The significant difference was found between the LA and No-LA groups (t = 2.65, $p \le$ 0.01) where the No-LA students attended an average 5.5 days more often than the LA students. This data does not take into account four LA students who had moved or dropped out of the LA class before year end, ten students who had dropped out of a No-LA group, and two SIM students who dropped out before the end of the year.

Table 7 Analysis of Variance of the Absenteeism for 3 Treatment Groups									
Intervention Groups	<u>SS</u>	<u>df</u>	MS	<u>F</u>					
Between groups	567.16	2	283.58	3.74*					
Within groups	7197.9	95	75.77						

* $p \le 0.03$.

Further analysis examining the reading achievement of frequent attending and low attending SIM, LA, and No-LA students was performed to determine whether better attendance, or the influence of the SIM, LA, or No-LA interventions increased reading ability. If greater absenteeism leads to negative achievement success then reading achievement should drop for the low attenders but not for the frequent attenders. If absenteeism has no affect on achievement then achievement scores of frequent and low attenders should be statistically equal.

While recognizing the difficulty inherent in answering this question with validity due to the small sampling numbers available in this study to form comparison groups, I took the analysis of absenteeism one step further, to examine the reading gains of low and frequent attenders in the SIM, LA, and No-LA classes. A good attender was arbitrarily classified as a student whose

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attendance matched the worst mean monthly school population attendance of 7% absenteeism (13 days out of 192) or less, although school personnel might consider this high an absence rate to be problematic. Student achievement is expected to be affected by this many days absence. A student who was absent 14 days or more per year was considered a low attender. The effect of attendance and intervention for these two groups was then examined.

First, Table 8 indicates that the number of frequent attenders is larger for both the SIM and No-LA groups. Conversely, there are more low LA attenders. T-tests indicated significant differences between attendance rates of frequent and low attenders of the SIM, LA, and No-LA groups as would be expected since they were separated into high and low attendance groups

Table 8.

Mean Absenteeism and Reading Gain Scores of Frequent and Low Attending SIM, LA, and No-LA Students.

		F	Frequent Attenders				Low Att			tenders	
		Abser	nces	<u>SDRC</u>	<u>CT</u> Gains		Absen	ces	<u>SDR0</u>	<u>CT</u> Gains	
Group	<u>n</u>	Mean	<u>SD</u>	 Mean	<u>SD</u>	<u>n</u>	Mean	<u>SD</u>	Mean	<u>SD</u>	
SIM	22	4.5	3.5	8.5	8.3	11	20.3	6.0	9.6	8.6	
LA	17	6.2	3.4	4.5	6.7	17	21.7	8.0	3.6	6.8	
No-LA	25	5.4	3.6	6.4	6.2	6	20.5	4.1	5.8	6.7	

 $(\underline{t} = 9.55, \underline{p} \le .0001; \underline{t} = 7.39, \underline{p} \le .0001; \underline{t} = 9.07, \underline{p} \le .0001$ respectively). However, t-tests on the reading achievement gain scores of good and poor attenders indicated the gain scores in reading ability were not significantly different for any group ($\underline{t}_{SIM} = 0.39, \underline{p} \le .70; \underline{t}_{LA} = 0.36, \underline{p}$ \leq .72; <u>t</u>_{No-LA} = 0.20; <u>p</u> \leq .84). Frequent or low attendance was not related to the outcome of reading achievement gains of the individual intervention groups.

Failed Subjects

Frequencies of failed subjects out of eight were calculated from the final report card of the year for each student. The mean number of subjects failed by students in the SIM, the LA, and the No-LA classes is recorded in Table 6 and suggested that SIM students passed slightly more subjects than the LA students but less than the No-LA students. However, a 3 X 1 (groups by failed subjects score) ANOVA (see Table 9) found no difference in the three groups \underline{F} (2, 95), 2.39, $\underline{p} \le 0.10$).

Table 9

Analysis of Variance of the Failure Rates for 3 Treatment Groups

Intervention Groups	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	
Between groups	19.05	2	9.53	2.39	
Within groups	379.12	95	3.99		

The Behaviour of Failure

Correlation statistics testing the relationships between pretest scores, absenteeism, failure rates, and gain scores, indicated negligible or no associations between the various variables. An exception was the association found between absenteeism and subjects failed; the three groups showed a moderate positive correlation between absenteeism and subjects failed ($\underline{r} = .55$, p < .196). The association was not significant. The greater the absenteeism, the greater the number of subjects failed.

However, it became obvious that another variable was playing a role in the success or

failure of the treatment students. After viewing the above results, additional information in the form of a behaviour score, was added to the study. The behaviour factor for this study was calculated from the two work habit marks assigned to students by their teachers each reporting period. With two reports, multiplied by eight subjects, each student received 16 work habit reports per year from six to eight different teachers. The variety of teachers reporting on behaviour insured less bias in the mean work habit mark.

The schools used the descriptors G, S, and U as work habit marks. The three descriptors, G, S, and U, were given a numerical value: G = 2, S = 1, and U = 0 indicating G as a positive behaviour, S as an acceptable neutral behaviour, and U as a negative behaviour. The values were tallied to give a numerical work habit mark for each student in SIM, LA, and No-LA (see Table 6). The possible minimum to maximum range of scores for each student was 0 to 32, 0 being extremely poor behaviour, 32 being excellent behaviour. The mean behaviour scores of the SIM, LA, and No-LA groups were 14.0, 12.9, and 16.1 respectively. A 3X1 (group by behaviour scores of each group F (2, 95), 1.61, ($p \le 0.20$).

Table 1	0
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Ana	lysis	of	Variance of	the B	ehaviour	Scores :	for 3 ′	[reatment]	Groups
		_							

Intervention Groups	<u>SS</u>	<u>df</u>	MS	<u>F</u>
Between groups	168.56	2	84.28	1.61
Within groups	4963.45	95	52.25	

Predicting Subject Failure

One of the last questions asked in this study concerned the relative weight pretest <u>SDRCT</u> reading comprehension scores had in predicting achievement in the eight standard grade eight school subjects (English, SS, Math, science, physical education, home economics/industrial education, elective, and French/SIM/LA). It is highly desirable to have a method of predicting

which students are most in need of special assistance before they enter grade eight and experience failure in their first year of high school so that appropriate interventions can be planned before failure and related problems occur. It has been found, experientially, that elementary teachers overrecommend underachievers with behaviour problems to LA programs and underrecommend students with learning/reading disabilities but no behaviour problems to LA programs. The latter group of students often fail in inclusive settings because they cannot cope with the textual requirements of grade eight curricula. On the other hand, good readers with behaviour difficulties do not need the intervention of a reading strategy program. Therefore, a regression analysis was expected to determine the variables that could reliably predict which students could most benefit from LA.

In a first step to examine predictability of failure, a cut score set at the 39th percentile (raw score = 48, Stanine 1 - 4, $GE \le 7.5$) on the <u>SDRCT</u> pretest was used to predict subject failure from the standardized <u>SDRCT</u> (see Table 11). Only 13 students with <u>SDRCT</u> pretest scores above the 40th percentile failed any subjects. These students are considered to be average to

Table 11.

Number and Percentages of Students with Low, Low Average, and Average to Above Average Reading Comprehension Scores Who Failed Subjects

* Reading Comprehension Level	n	Failure	Percent
low	43	38	88%
low average	18	7	39%
average to above average	109	13	12%

* low: below 25th percentile; low average: between 26th and 39th percentile; average to above average: above 40th percentile on SDRCT.

above-average under-achievers who need differential treatment compared to the lower functioning students with reading disabilities. In contrast, seven out of 18 students (39%) who scored between the 26th to 39th percentile (GE 6.3 to 7.5) on the <u>SDRCT</u>, and who are considered to be low average in reading ability failed some subjects. In turn, 38 out of 43 students with low reading ability (88%), with a cut score set at the \leq 26th percentile (RS \leq 40, GE \leq 6.1) experienced one or more failed subjects. The remaining five of these 43 students (12%), passed all subjects. The relationship between entry reading level (as measured by the <u>SDRCT</u> pretest) and success in passing courses is shown in Table 11. This data does not take into account students who entered School 1 during the course of the year and who were tested after the main student body.

The Partial Correlation

A partial correlation of the effect of the independent variables (absentee rate, behaviour rate, pretest score, and gain scores) on the dependent variable (failure rate) was run for two reasons. One, to determine which variables are likely to be useful predictors of the failure rate of students and secondly, to determine whether a standard multiple regression was a desirable process. Tabachnick and Fidell (1989) note that if independent variables are highly correlated to each other then the results from a multiple regression may be obscure. Data demonstrating multicolinearity indicates that the variables are essentially the same and one variable may hide the impact of a second independent variable. The variance of an independent variable may be explained by another independent variable if the independent variables are highly correlated. Therefore, low to moderate correlations between variables are desirable to run a regression. A preliminary step to examine the relationships between the failure rate and independent variables involved running the partial correlation. The failure rate, absentee rate, behaviour rate, pretest score, and gain scores were entered into a partial correlation analysis examining all the factors to determine which variable in this analysis most influenced student failure. Table 12 presents the partial correlations data of the three treatment groups.

The three sets of partial correlation analyses of the SIM, LA, and No-LA groups indicate that poor behaviour is negatively correlated with increased subject failure ($\underline{r} = -.70$, -.67, and -.69 respectively), and increased absenteeism is moderately correlated with an increased failure rate

Table 12

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Partial Correlations -- SIM, LA, and No-LA Interventions

	Failures	Absences	Behaviour	Pretest	<u>Gains</u>
	Stra	tegy Interventio	n		
Correlations					
Failures	1				
Absences	.65	1			
Behaviour	70	46	1		
Pretest	30	19	.18	1	
Gains	.02	13	12	43	1
<u></u>	Lea	rning Assistance	Intervention		
Correlations					
Failures	1				
Absences	.55	1			
Behaviour	67	59	1		
Pretest	24	.02	01	1	
Gains	06	12	.21	07	1
······	No I	ntervention			
Correlations					
Failures	1				
Absences	.29	1			
Behaviour	69	34	1		
Pretest	21	.01	.09	1	
Gains	24	09	.25	32	1

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($\underline{r} = .65$, .55, and .29 respectively) for all intervention students. In all cases negative behaviour is a more important associative factor with greater failure than absenteeism. However, negative behaviour and greater absenteeism are also moderately correlated with each other for the SIM, LA, and No- LA groups ($\underline{r} = -.46$, -.59, and $\underline{r} = -.34$ respectively) indicating that these students may be both frequently absent and judged by their teachers to have poor work habits. Nevertheless, because these are moderate correlations the absenteeism and behaviour variables are believed to be sufficiently independent of each other, each expressing student alienation from school. Teachers' more positive judgments of behaviour are associated with reduced failures, and at a moderate level, the better the behaviour the better the attendance. These students, who are all poor readers, exhibit problems with behaviour and absenteeism that is not displayed by the majority of competent readers who attend school regularly

and pass most or all subjects. The partial correlation data found a low correlation between pretest scores and failure rate for the SIM, LA, and No-LA students ($\underline{r} = -.30$, -.24. and -.21 respectively). Furthermore, the partial correlation data indicates that the pretest scores on the <u>SDRCT</u> of the SIM students are moderately correlated to gain scores ($\underline{r} = -.43$). This is not true for the LA and No-LA students who demonstrate a low correlation ($\underline{r} = -.25$ and $\underline{r} = -.32$) between <u>SDRCT</u> pretest scores and gain scores. The effect of the SIM strategy intervention is apparent in the scores of the SIM students. It must be remembered that only the lowest reading ability students are considered in this analysis; the higher functioning students are excluded from this analysis. For this reason, further correlational analysis at the school level using the Pearson Product Moment Correlation was employed to examine the relationship between reading pretest scores.

Since low GPA scores reflect greater subject failure, the <u>SDRCT</u> pretest data and GPA scores from the 1995 - 1996 school year were used to examine a school-wide association (n = 169) at school 1, between <u>SDRCT</u> pretest scores and GPA scores; the existence of the LA classes in this year are a normal part of most school interventions. These data were not available at School 2. A moderate school-wide correlation was found ($\mathbf{r} = .59$) between pretest scores and the GPA score. Generally speaking students with poor reading ability also obtained low GPA scores. However, above average underachievers (those whose scored very high on the <u>SDRCT</u> but obtained only

average marks in school) pulled the correlation down by scoring high on the reading assessment but obtaining only average GPA scores. All students but 18 underachievers (those who pretest at and above Stanine 5 on the <u>SDRCT</u> but still experience failure), passed all subjects during the 1995-96 school year although perhaps not with the best marks they might have obtained.

The Regression Analysis

Based on the partial correlation analysis and the fact that the variables did correlate at low and moderate levels, a regression analysis was considered appropriate. Tabachnick and Fidell (1989) note that regression analyses are suitable when independent variables are correlated with one another. Several independent variables can be combined in a multiple regression to predict their influence on a dependent variable. To determine whether failure rates could be predicted from the independent variables in this study, a regression analysis was run using the failure data as the predicted dependent variable, and the absenteeism rate, behaviour scores, pretest scores, and gain scores as the independent variables. The regression analysis included the data of all grade eight

Table 13.

Variable	<u>B</u>	<u>SE B</u>	CI	ß
Behaviour scores	-0.146**	0.022	-0.1890.103	528
Absenteeism	0.065**	0.018	0.030 - 0.099	.290
Pretest scores	⁻ 0.042 ^{**}	0.015	-0.0720.012	⁻ .1 92
Gain scores	.009	0.019	⁻ 0.0 29 - 0.047	.033

Summary of Regression Analysis for Variables Predicting Students' Subject Failure (N = 98)

<u>Note:</u> $\underline{R}^2 = .575; (p < .05).$

****** <u>p</u> ≤ 0.01

SIM, LA, and No-LA students (n = 98). Tabachnick and Fidell (1989, p. 128) suggest that a 20:1 ratio of subjects to independent variables, as in this case, is appropriate. Plots of predicted values of the dependent variable against the residuals showed normality, linearity, homoscedasticity and independence of residuals. Table 13 shows the regression data and shows that behaviour, absenteeism, and pretest scores were significant ($p \le 1.09$ -E9, $p \le 0.0004$, and $p \le 0.007$ respectively) in relationship to failure to achieve in school. Gain scores, on the other hand, were found not to have any significant association with failure to achieve ($p \le .64$).

Summary

The principal thesis of this study was that SIM students would gain significantly more in reading comprehension through participation in the Paraphrasing Strategy intervention than the LA students would gain from typical LA. The results of the analysis indicate that the SIM students were significantly affected by the strategy intervention compared to the outcome of the LA students who received the typical tutorial /compensatory intervention. The SIM students exceeded the one year gain in reading achievement needed to overcome a cumulative deficit compared to the LA students students who gained less than a year in reading achievement thereby continuing to suffer from a cumulative deficit. The secondary hypotheses addressed the role of absenteeism and subject failure as they were affected by participation in strategy intervention or typical LA intervention. No significant difference in attendance and subject failure rate between SIM students and LA or No-LA students was found. Furthermore, no significant difference was found in the behaviours of the three intervention groups. The preliminary results of the partial correlation and regression analysis indicate that poor behaviour, absenteeism, and reading ability affect student ability to succeed in school, as identified by the rate of failure, and could be used to predict which students are likely to fail in grade eight. These results will be discussed at further length in the following chapter.

CHAPTER FIVE DISCUSSION

The Incidence and Effects of Failure to Achieve in Reading

To be successful in school as represented by success in content area subjects, students must be competent at reading and must be literate. Between 1993 and 1997, 30% - 41% of all grade eight students at the two junior high schools, participating in this study, read a half year or more below grade level. In fact, 28% of all grade seven students entering grade eight during the years 1995-1997 read at a stanine 3 or less (GE ≤ 5.7 , $\leq 22nd$ percentile) as identified by the <u>Stanford Diagnostic Reading Comprehension Test</u> (SDRCT). In other words, more than a quarter of grade seven students' reading ability level was two years or more below grade level at entry to grade eight. These findings are consistent with the U.S. National Assessment of Educational Progress (1992) reading achievement data which indicates that 31% of eighth graders read below an acceptably proficient level (cited in Baker, Kameenui, Simmons, & Stahl, 1994). According to Chall, Jacobs, and Baldwin (1990), these students cannot meet the requirements of a curriculum that is written two years or more beyond their grade level. In fact, they state that students who read only one year below grade level will experience difficulty with the reading level of most curricular texts.

Furthermore, students who show reading deficiencies fail to achieve curricular success, tend to behave in a fashion that does not lead to school success, absent themselves from school, drop down, and drop out of school. The data of 17 grade eight students who dropped out of School 1 alone could not be included in the analysis of this study: between 1993 and 1995 four students did not return to school after grade seven and three students dropped out of the grade eight Strategies Intervention Model (SIM) class. Between 1995 and 1996 ten students with a mean grade equivalent score of 4.9 (mean raw score 31, mean percentile 17, range 15 - 43) on the (SDRCT), who were placed in inclusive settings with no LA support, moved or dropped out. It is important to note that these students who dropped out are reading disabled as assessed by the SDRCT. Thus these findings on dropout are consistent with the findings of Levin, Zigmond, and Birch (1985), Blackorby, Edgar, and Kortering (1991), and Hasazi, Johnson, Hasazi, Gordon, and Hull (1989) who note that up to 51% of learning disabled are believed to drop out of school

without completing grade 12. However, most of the research literature examines the dropout behaviour of grade ten to twelve students; little research examines the dropout process before grade ten and little research examines the connection between school achievement failure, behavioural problems, dropout, and reading failure. These data show that dropout from grade seven and eight is a problem that is not identified in most of the research literature.

The commonly accepted interventions to reduce failure to achieve and dropout behaviour that are discussed in the literature and that are examined in this study have included attempts to improve the attendance behaviours of low-achieving or learning disabled students as well as attempts to resolve the behavioural difficulties typically experienced by low-achieving students. However, failure to achieve in school and dropout rates are still high. The inability to effectively remediate many students' school achievement difficulties may be due to the fact that the underlying problem, a reading disability, often is neither identified (Soodak & Podell, 1994) nor treated. Although the reading literature clearly identifies reading disabilities to be a major factor in failure to achieve in school (Chall, Jacobs, & Baldwin, 1990; Stanovich, 1982) educators at the high school level usually do not target reading deficits for specific intervention. Furthermore, effective techniques to remediate reading failure by more than one grade level also have not been identified in the research literature. Little has appeared to work as evidenced by the continuing failure of students with reading disabilities to achieve in school.

The findings of this study show, however, that strategy instruction to improve reading comprehension significantly improves the reading ability of low achieving students. This study examined two types of interventions and their ability to intervene successfully to meet the needs of reading /writing disabled students who are commonly classified as learning disabled -- namely the typical learning assistance (LA) practiced in most high schools, and the Strategies Intervention Model - Paraphrasing Strategy of Schumaker, Denton, & Deshler (1984) (SIM). This study also examined the absenteeism behaviour and the failure experiences encountered by learning or reading disabled students. In this discussion I first examine the ability of a Paraphrasing Strategy to intervene in the reading deficits experienced by grade eight students. I follow this with a discussion of absenteeism and the ability of improvement in reading competency to influence attendance behaviour. Conversely, I also examine how absenteeism affects learning. Subject failure is examined next. Fourth, I examine the influence of behaviour on achievement. Lastly,

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the ability to predict failure is an important task of counselors therefore a regression analysis predicting school failure is evaluated. I close with a discussion of the role of the counselor and how this role is affected by the data of this study.

Effects of Strategy Intervention, Learning Assistance, and No-Learning Assistance Interventions on Reading Gain Scores

The mean SDRCT pretest scores of the SIM, LA, and No-LA students, shown in Table 2, indicate that the students in this study have reached the academic learning plateau and were experiencing a continuing cumulative deficit (Bender, 1995; Chall, Jacobs, & Baldwin, 1990; Deshler, Schumaker, Lenz, & Ellis, 1984; Warner, Schumaker, Alley, and Deshler, 1980). However, the Paraphrasing Strategy Intervention (SIM) students demonstrated a significant increase in reading comprehension that is not replicated by the LA students. The reading level of the SIM students improved by a mean of 1.3 grade levels while the LA students improved by 0.8 grade levels. In fact, in the present study, the first group of SIM students improved in reading comprehension by 1.2 grade levels and the second group of SIM students improved in reading comprehension by 1.6 grade levels, both high enough to combat the cumulative deficit. The SIM students outstripped the expected one year rise in reading ability and gained on a cumulative deficit which was only expected to worsen, as it did for the LA students. The SIM gain reflects a significantly greater increase than the reading comprehension improvements through LA of 0.3 and 0.2, 0.6, 0.4, 0.6, and 1.0 grade levels respectively found by Deshler, Schumaker, and Lenz (1984), Clark (1993), Gottesman, (1979), Polloway, Epstein, Polloway, Patton, & Ball, (1986), and Zigmond, Vallecorsa, and Leinhardt (1990) in their studies. The raw gains of LA students in previous research, with the exception of one, in fact, represent a decrease relative to their peers, who by definition, gain 1.0 grade equivalent levels per year.

Rather than basing educational decisions on findings of only weeks or months duration the results of this study reflect what can be accomplished in real educational settings over a one year term. This current study has demonstrated that students can make significant gains in reading comprehension achievement as indicated by a standardized assessment. Furthermore, in contrast with the studies mentioned in the research literature, this current study made use of comparative and control groups to evaluate the outcomes of the interventions. Rather than a comparison based

only on one-group, pretreatment to posttreatment gains, this study utilized a quasi-experimental design by inclusion of a control group. The results of this study may be more reliable and valid than those of the more limited past studies. For example, Sjostrom and Hare (1984) had found that teaching grade nine students how to find explicit and implicit main ideas through direct teaching had had no effect on their student's comprehension gain on the standardized <u>Davis</u>. Reading Test although students were significantly better at identifying main ideas. However, their study covered a span of 75 minutes per day for four days during four weeks, a time period too short for valid results on a standardized test. In contrast to most other empirical studies found in the literature, this study represents a year-long intervention based in a real context for most students — the regular classroom.

At this point, in examining Table 3, it would be easy to assume that No-LA intervention is as acceptable as the SIM intervention since the No-LA students appear to have increased their reading comprehension by the expected year (0.9). There are two reasons why the No-LA group may not have been a good control group: the dropout/transfer behaviour of these students and the lack of recommendation for assistance from the grade seven teachers. An important difference between the No-LA students and the SIM students is the rate of dropout from each group. The No-LA group experienced a selective mortality affecting the validity of this group's results (Palys, 1992). While only three students dropped out from the SIM class over a period of two years, ten students from the No-LA group in School 1 dropped out in one year by moving to dropdown programs in the district, or moving to home schooling or correspondence. (The dropout/transfer behaviour of students in School 2 was not tracked.) The mean SDRCT pretest grade equivalent score of the No-LA dropouts was 4.9. These students demonstrated severe reading and behaviour difficulties and were noted for at-riskness by their grade seven teachers due to their limited organizational skills, poor work habits, and incomplete assignments. They were recommended for controlling measures such as planner checks through counselors as well as intervention and follow-up by the School Based Team. However, since they were not present for the SDRCT posttesting their data could not be counted and their missing data skew the results of the No-LA group. Lee and Burkam (1992) have argued that moving or transferring schools may be one of the first indicators that students will drop out. Thus, school transfers, the low reading scores of these students and their move to alternative drop-down programs indicate that at the grade eight

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level, dropout was already imminent or had occurred. Failure to assist students who are poor readers appears to be detrimental to their school attendance. If staying in school is a sign of overcoming a failure identity then the SIM program achieved this goal to a higher degree than the No-LA intervention. The No-LA intervention was least effective at retaining students. Although no program is able to hold all students, any program appears to be better than none.

It should also be noted that the SIM and LA students are perhaps closer in character than are the SIM/LA groups compared to the No-LA group for one important reason. The No-LA students were not identified for LA assistance by their grade seven teachers but were only identified for a control group by the SDRCT results for the purpose of this study. Teacher recommendation points out a difference between the LA/SIM students and the No-LA students which may influence the achievement outcome. They may not have been identified for LA intervention for a number of reasons. Grade seven teachers perhaps expected some of these No-LA students to perform acceptably in their grade eight year perhaps because they did not display significant behaviour problems in grade seven. If they did behave unacceptably, then the teachers recommended controlling interventions instead for these students. The dropout of the negatively behaving students influenced the results positively. The positive behaviour difference of those students who remained in grade eight may explain why the No-LA students improved in reading achievement as much as they did; since teacher judgement is based on compliance with the expectations of school, these students may have more consistently completed homework and class assignments and behaved in a socially approved manner. Their attendance certainly was better than that of both the SIM and LA students.

Due to the dropout/transfer behaviour and difference in recommendations for programming of the No-LA students, the more accurate comparison of the effectiveness of the interventions may lie between the SIM and LA students. A more plausible explanation for the LA/No-LA difference is that the No-LA gains were artificially inflated because of the high dropout rate of the lowest functioning students in inclusive placements. Therefore, the No-LA group may be a poor control group. When students with reading disabilities are placed in LA or inclusionary classes, they fail to gain significantly in reading achievement or they may drop out of school. The conclusion that can be reached from this study is that a strategies intervention to improve reading ability is more beneficial to improve reading achievement than any other typical LA intervention or regular

inclusionary practice.

Within group variability in reading gains

Clark, Deshler, Schumaker, Alley, and Warner (1984) asked whether lower functioning students would have more trouble improving reading comprehension scores using reading strategy interventions than higher functioning students. The basis for this question is that lower functioning students have further to improve and may not be able to read well enough to take advantage of a strategy intervention. Others have argued that, for this very reason, lower functioning students can, and do, improve more than higher functioning students (Paul, 1996). The correlations between pretest and posttest scores on the SDRCT sheds some light on this question. The association between pretest and posttest SDRCT scores was found to be high for the LA students (r = .81) and moderate for the SIM students (r = .54). In other words, there was less consistency between the pretest and posttest variables for the SIM students than there were for the LA students. In the case of the LA students, those students who had low pretest scores also tended to make minimal reading gains with an LA intervention. Tutorial or compensatory practices in subject areas, as typically found in LA programs, did not improve extremely poor reading ability. A student with a higher pretest score experienced greater gains in reading comprehension in LA than lower reading peers. This would seem to indicate that higher scoring students should take LA. Intuitively, this makes sense since tutoring can remedy small problems. However, lower reading ability students experienced no advantage from LA suggesting that they require an intervention that directly remediates their reading difficulties.

Furthermore, this pre-post correlation indicates that the pretest score is not a good predictor of how a student will respond to a strategy intervention. For example, students with both low and high pretest scores had a high capability of responding to strategy instruction. The reverse is also true. Students with low and high pretest scores also had a low ability to respond to strategy instruction indicating the existence of other variables, such as behaviour and attendance, influencing reading gains. Nevertheless, the strategy instruction intervention has the potential of benefitting most students independent of their pretest scores.

Another past research issue brought out by this study examines whether low ability students benefit more from mainstreamed inclusive placements or from special resource room based placements such as LA and strategy intervention. An explanation favouring inclusive
placement is that students in regular classes read more and read materials of greater complexity. On the other hand, because the aim in LA is for the students to grasp the curricular content, the difficulty level of reading materials is often decreased via compensatory methods such as highinterest low level reading materials, lowered vocabulary levels on supplementary texts and tests, or audio-taped and video-taped books which the student does not have to read at all. None of these methods help to increase the student's reading ability since contact with reading is actually reduced in LA. If the students don't read, they do not make gains in reading.

However, the following three arguments challenge this idea that the difference is due to No-LA students participating in more reading. First, considering that the students in both schools attended six or seven regular inclusive classes, typically missing only French 8 to attend the SIM class or LA, it is highly doubtful that there is a great deal of difference in the amount of reading they missed by not attending French and attending LA instead. Second, it has already been noted that students actually read very little in the usual course of a school day or school year. Even in a normal class, students with reading disabilities do not read enough to counter a cumulative deficit. Third, the lack of reading time is aggravated by the fact that students who are reading disabled dislike reading and tend to avoid any reading activity (Rabren & Darch, 1996). The reading level of textual materials is all too often several grade levels higher than can be competently managed by the student with reading disabilities, leading to failure to cope with assignments, and failing subjects. Unable to read the difficult texts, they give up and read very little, preferring the consequent punishment instead (Stipek, 1993). The less they read the more their reading skills deteriorate (Stanovich, 1986). They continue to fall behind and actually accentuate the effects of the cumulative deficit. Therefore, the argument for missed reading potential experienced by the LA students bears little weight.

On the other hand, it may be claimed that a greater amount of reading through the strategy intervention may have led to significantly increased reading comprehension scores. Students in the strategy intervention classes may have participated in a greater amount of reading than they would normally experience in the LA or regular classroom context. SIM students essentially read 20 short one or two page expository articles of between 600 - 1200 words each as well as a small number of simpler encyclopedia articles and library texts. Engaged reading time rather than allocated reading time is likely to be the crucial factor because students in the strategy classes were

assigned reading materials at their ability level or slightly above with which they could be successful. The strategy intervention instruction provided the students with active interaction with the text through discussion of the concepts and information in the readings, through the paraphrasing of text into their own words, by the rereading of the paraphrased ideas for study purposes, and through the writing of essays from the paraphrased notes. Students had the opportunity to encounter the text repeatedly until the written word was recognized automatically (Stanovich, 1982) and became part of the student's prior knowledge both at the level of individual words as well as at the level of concepts and ideas. The challenge of reading increasingly difficult materials leads to an expanded knowledge of vocabulary, word recognition ability, and declarative knowledge. Because the teacher focused on reading instruction as a primary goal, these students may have been more likely to engage in reading during class.

Reid and Stone (1991) have used Piagetian and Vygotskian theory to propose why cognitive instruction is effective. During cognitive strategy instruction students with learning disabilities fill the role of apprentice learners who have the opportunity to collaboratively learn problem-solving strategies leading to increased reading comprehension skill. Particularly in the use of the paraphrasing strategy, students participate actively both verbally and nonverbally to think about what they have read and to verbalize what they have read. Students are no longer passive listeners who do not interact with the text in any way that leads to meaning-making. In a class setting, where main ideas and details have to be agreed upon by both students and instructor, and where students have the ability to see appropriate thinking/reasoning/problem-solving skills being modeled by competent others who function within the student's zone of proximal development, the possibility of learning becomes a given. "Verbal interchange demands that adjustments be made in mental representations (i,e., that the ideas become reorganized), because consensus is the ultimate criterion for problem solution/accuracy" (Reid & Stone, p. 17). What is important in the linguistic interactions of the strategy intervention is not the content being learned but the process of learning -- the how of learning rather than the <u>what</u> of learning.

Ellis, Deshler, and Schumaker, (1989) and Schumaker, et al (1982) also questioned what an optimal group size for strategy instruction would be and whether the strategies could be taught to larger groups of students rather than through individualized or small group instruction. In this study the population of the classes receiving strategy instruction consisted of a maximum 25

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students. Usual class size does not exceed 30 and classes of 25 are not outside the normal range. Family mobility reduced the classes to 21 students by the end of the school year – triple the number of students in any of the previous research studies employing the strategies model. This study has demonstrated students with reading disabilities placed in a typically-sized class learn strategy interventions and benefit significantly from such instruction. In contrast, there were never more than eight students in an LA class. The strategy intervention utilized school resources more efficiently than the traditional LA intervention. Furthermore, even though the strategy class size was within the normal range, the strategy intervention class gained significantly more comprehension ability than the LA group. This counters the arguments of those who challenge the benefits of homogeneous grouping as a method of increasing reading ability (McGill-Franzen & Allington, 1991). However, little empirical data exists to suggest any one method is better than another. This study provides an example of beneficial, significantly more effective, programming in a streamed, homogeneous class with inclusive programming for the remaining seven subject areas.

I would like to address the research which suggests that students with learning disabilities have information processing deficits or that they are passive learners. Students in the strategy class demonstrated that they did not lack the capability to improve information processing skills although they all experienced reading deficits. They succeeded in learning a strategy and using that strategy to paraphrase difficult reading materials well above their reading level. The strategy intervention students displayed the ability to listen to paragraphs and to glean information from them once taught to use appropriate comprehension strategies. The second phase entailing the reading of the paragraphs, paraphrasing the information, and writing the information down, were the more difficult tasks encountered by these students. Nevertheless, they mastered the task, often finishing a RAP (Read, Ask, Put) on an encyclopedia article in half an hour or less and ready for oral presentation. The SIM students in this study became knowledgeable of the orderly presentation of information in both oral and written formats and actively completed the tasks as required once the technique was mastered. And as indicated by the data, their reading comprehension improved significantly. Rabren and Darch (1990) note that students labelled learning disabled used poor strategies that prevented them from accessing information from text. However, students with learning disabilities can learn an effective strategy leading to understanding of text. Further,

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Torgesen (1989) points out that children with learning disabilities can comprehend normally organized paragraphs as well as normally achieving children. In reality, apparent information processing deficits may be another face of passivity, a behavioural, turn-off response to frustration with the reading requirements of the regular curriculum which can be turned on when competency is not a problem.

Finally, most students in this study were identified to be learning disabled by their grade seven teachers. In most cases, a specific reading deficit was not mentioned by the grade seven teachers although an achievement problem or learning disability were (see Soodak & Podell, 1994). However, regardless of label, all the learning/reading delayed students in this study were targeted for a paraphrasing strategy intervention and demonstrated that they could learn to read and comprehend at an increased level through strategy instruction. I believe reading disability is the basis for problems encountered by many students who are labeled low achievers or learning disabled. The students' difficulties with academic materials began and continued because they could not read or comprehend the textbooks at the grade eight to thirteen level nor, through reading, integrate the textual information into their knowledge schemas. Since these students can improve their reading competency significantly through a school-based strategy instruction program, perhaps they do not have a learning disability. As Kaluger and Kolson (1978) noted almost 20 years ago, 90% of learning disabled students may actually be reading disabled. We should not assume a deficit model to explain the problems encountered by students with learning or reading disabilities; rather, the problems may be due to instructional process factors in the schooling they have received.

Absenteeism

To be successful in school students must attend school. This study found that students who were in fact absent a great deal also performed poorly in school as identified by their <u>SDRCT</u> pretest score and their failure rate. Table 5 shows the data that indicates that absenteeism in fact was higher for poor readers than for able readers. In contrast to the average 2% - 7% absentee rate of students identified as competent readers, strategy intervention and LA students with reading disabilities were absent 19% and 42% respectively on a given day such as the day of posttesting with the <u>SDRCT</u>. Furthermore, in this one-time attendance check, 13 of the 31 students (42%)

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who participated in the LA classes at school 2 were absent from both pretest and posttest sittings indicating their absenteeism started in elementary school. These students' mean number of absences are well above mean school-level absences. The mean <u>SDRCT</u> score obtained by the LA classes in School 2 may be inflated. Had the whole LA class been posttested, their mean posttest score might be lower due to the negative effects of absenteeism on academic achievement. In terms of a one-day sampling of absenteeism on the day of posttesting, 42% is a large absence rate for the LA students, the result of which potentially inflates group mean posttest scores. LA might be even less effective than is indicated by this study because of the greater absenteeism rate of students in LA. However, I present an interesting counter-argument below; the effects of absenteeism on learning may need further research.

Of the students in the study who were present for the posttesting, students with reading disabilities in the strategy intervention class and the LA class were absent an average of 9.7 and 14.0 days, respectively, per year. This was not a significant difference. Based on a comparison with the work of Barrington and Hendricks (1989), who studied the relationship between absenteeism and dropout behaviour, it might be assumed that dropout is not a risk for these grade eight students at this point in time. Barrington and Hendricks (1989) found that students in grade nine, who were identified as dropouts, were absent 20 days per year. Nevertheless, these data only examine the absenteeism behaviour of the whole group and misses a comparison of groups within groups. In separating the SIM and LA students into two groups consisting of those who were frequently absent and those who were absent within a normal range, students who were frequently absent missed a mean of 21 days per year. Furthermore, 33% (n = 11) of strategy intervention students were absent frequently, compared to 50% (n = 17) of the LA students. The absentee rates of the low attenders are consistent with the findings of Barrington and Hendricks. Should the findings of Barrington and Hendricks be valid then these grade eight students who are frequently absent are in danger of dropout.

One of the hypotheses of this study is that students experiencing reading disabilities will want to be situated where they can be successful. Absenteeism is related to reading disability and is a strategy students with reading disabilities may use to avoid school and negative school experiences. I believed that if strategy intervention was a successful experience for the students then they would attend more often thereby reducing the consequences of absenteeism on learning.

However, the difference in absenteeism between the strategy and LA interventions was not significant indicating that absenteeism is a behaviour experienced by many students with reading disabilities, regardless of type of intervention. The lack of a significant finding between strategy intervention student absenteeism and LA student absenteeism indicates that the strategy intervention gains in reading ability cannot be attributed to the better attendance of the SIM students. The strategy intervention or some aspect of the intervention techniques rather than an attendance difference is responsible for the improvement in reading achievement shown by the SIM students.

An examination of the achievement differences between frequent and low attenders brought some interesting information to light. As can be seen from Table 8 which shows the results of the increase in reading achievement gains of frequent and low attenders in each intervention group, attendance appears to make no difference in the quantity of reading achievement gains made by students who are frequent or low attenders. Both groups, within their respective intervention groups, increased their reading gain scores comparably without a significant difference being found on the t-tests. Within each type of intervention, attendance behaviour apparently made little difference to the final achievement outcome (increased reading ability) of the students experiencing the intervention. Rather, success or failure to increase reading achievement is apparently affected by the type of intervention program and the teaching techniques used in them, as demonstrated in the differences in reading achievement gains of each intervention. There was a benefit to being in the strategy intervention class regardless of attendance behaviour. In fact, as can be seen on Table 8, low SIM attenders actually slightly increased their reading gain scores more so than the frequent SIM attenders! In contrast, Lamdin (1996) found that attendance of higher performing students was moderately and positively correlated to ability to read. However, the question based on correlational data still is: Does better attendance result in increased reading ability or does increased reading ability lead to better attendance? In terms of intervention practices is it worthwhile to increase students' attendance behaviour or is it worthwhile to increase students' reading ability? If my data on the effects of absenteeism is valid and reliable, then it may indicate that absenteeism has little bearing on students' ability to increase their reading achievement or ability to learn. The commonly held belief that the more students are absent the poorer their achievement will be in both declarative and procedural knowledge, and that increased absenteeism is believed to exacerbate school difficulties through reduced opportunity to learn, may not be true. Perhaps levels of

absenteeism can best be interpreted as a signal of student's degree of alienation from school.

Subject Failure

A thesis of this study held that greater efficacy in reading ability would lead to a reduction in subject failure for students with reading disabilities. With increased competence in reading comprehension, the strategy students would be better able to cope with regular grade level text and complete class/homework assignments and tests they had previously failed to complete. However, both the strategy intervention group and the LA group in this study experienced similar failure rates of a mean 2.0 and 2.4 subjects, respectively, a year. An ANOVA found no significant difference between the failure rates of the two interventions. Partial correlations indicated there was virtually no association between pretest scores or reading gain scores and failed subjects for the SIM and LA students. This correlation may be due to the selective nature of the sample; only the students with the lowest reading pretest scores were entered into the correlation analysis. In fact, as is noted in Table 11, 88% and 39% of low ability and low-average ability students respectively who had reading disabilities did fail to be successful in one or more school subjects regardless of the intervention they received but there was no constancy or linearity between the failure rate compared to pretest scores or gain scores of this limited sample.

These failure rates of the strategy interventions students and the LA students are consonant with those of Barrington and Hendricks (1989) who found that grade eight students who failed a mean of 2.5 subjects dropped out of school. Bos, Ruyters, and Visscher (1990) also found that dropout rate and the failure and retention rate were moderately associated. Although there is no causal connection between retention and dropout, these findings are worrisome especially as students may often fail the same subject a second time, sometimes even a third time, indicating that retention in a subject is not always effective to remediate a problem and students may eventually choose dropout rather than continuing failure.

Because only students with a reading disability were included in this study, these data point to the underlying reading disability as reason for failure to achieve. Students who were capable readers did not fail any subjects unless they were underachievers with behaviour problems rather than reading deficits. And unless an effective strategy intervention such as the paraphrasing strategy is used to remediate reading difficulties, failure will be a continuing experience. LA and

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its tutorial practices did not raise reading achievement sufficiently to be an appropriate intervention. However, improved reading ability is not an instant panacea either; the effects of improved reading ability on ability to achieve successfully may need the distance of time. The issue of a failure identity and its influence on future success has not been addressed by this study but is an important consideration.

Again, as noted above when I argued that reading achievement gain might actually be inflated due the excessive absenteeism of the LA students, the same can be argued about the failure rate of the LA students. Since 48% of LA students were not posttested their data are not included in these findings. Failure rate may actually be higher than identified in this study.

As expected, an increased absence rate was associated with a greater failure rate (see Table 6 for a comparison). The failure rate of the students in both the strategies and LA interventions was correlated at a moderate level with absenteeism (r = .65, r = .55, respectively). This is a consistent finding with that of Barrington and Hendricks (1989) who found that absenteeism could predict failure to achieve. Failure may be a consequence of absenteeism because students who are often absent miss notification of homework assignments, do not hand in homework when it is due, may have forgotten about homework, hand in incomplete or incorrect homework, often do not hand in homework at all, may not be able to pass tests, and generally frustrate teachers who try, for a short time, to help students who were absent complete missed assignments. When absences are excessive teachers give up, give zeros for missed assignments, and fail the student. Motivational aspects such as lack of care and concern with school expectations and requirements, or boredom with uninteresting and irrelevant curriculum may also affect achievement. Factors associated with the school environment such as failure to learn specific content due to poor teaching, badly designed lessons and tests, or of a reading/learning/mentally handicapping disability add to the list of reasons explaining failure. However, with the exception of a small number of underachieving students, those students who are able to read competently also pass all school subjects. On the other hand, students with reading disabilities who are frequently absent do not pass as successfully. They may experience a double effect, similar to double jeopardy, consisting of their reading deficit as well as their greater amount of absenteeism and its attendant consequences.

The Behaviour of Failure

A behaviour variable, not initially proposed by the thesis of this study (SDRCT pretest scores, gains in reading ability, or absenteeism) also played a role in students failure to achieve. Many SIM and LA students (67% and 68% respectively) displayed behaviours judged negatively by their teachers. Students who read well, most of those other students not considered by this study, do not exhibit similar behaviour, attendance, and subject failure problems. The findings of the partial correlation between positive behaviour and increased failure for the SIM and LA students was moderate ($\underline{r} = -.70$, $\underline{r} = -.67$ respectively). Students who received positive teacher judgments of behaviour were also less likely to have failed any courses. Most of the behaviour scores of the SIM and LA students registered below the mid-score of 16 indicating students from both classes were considered to have behaviour problems. Only 33% of SIM students and 32% of the LA students scored above 16. Of the six students in the strategy intervention classes who experienced a negative gain score in reading comprehension, only one scored favourably above 16. However, an ANOVA found no significant difference in the behaviour scores of the groups indicating that the effects of the strategy intervention and LA on reading achievement gain scores cannot be attributed to behaviour. The intervention itself was the important factor in improvement in reading gains. These findings support the work of Brady, Tucker, Harris, and Tribble (1992), Clark (1993), and Wentzel (1989, cited in Brady, Tucker, Harris, and Tribble, 1992) who had found that student behaviour was associated with school success. When teacher perception of student behaviour, as represented by the "work habits" mark on report cards, was added to the partial correlation the results showed that teachers' perceptions of student behaviour was the most significant associative factor of failure to achieve in school. However, teacher judgment of behaviour and passing marks are not independent variables. Teachers determine both, perhaps explaining the moderate correlation between the two factors. In addition, since all these student were identified to have a reading disability, inappropriate behaviour of one sort or another may be an outward expression of inner frustration with reading difficulties for many of these students. Students know they are unable to read effectively and that they are doing poorly. Each reading assignment is an exercise depicted by struggle, frustration, and lowered esteem. Years of failure lead to a devaluing of any success experiences these students may encounter.

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Absenteeism and behavioural difficulties may be, in part, a reflection of the students' frustration with a reading disability. Both absenteeism and inappropriate behaviour may actually be distinct means to an end for most low-achieving students as noted on Table 12 which indicates that the correlations between absence and behaviour is low to moderate. Peer induced motivation to be present in school may play a role in whether a student chooses behaviour problems (which may get the student a sporadic suspension) or absenteeism to avoid achievement problems (Goodlad, 1984; Stipek, 1993). This is not to deny that other factors may also play a causal role in the absenteeism rate, behavioural characteristics, and low pretest scores of these students. Other variables could include type of interactions with teachers, instructional techniques, peer pressure, motivational aspects, attributional perspectives, personality types, locus of control issues, family coping mechanisms, family educational standards, family educational expectations, early childhood education experiences, resiliency, and so on. Nevertheless, we cannot rule out the possibility that poor reading ability is related to behaviour problems, absenteeism, and failure to achieve in school. Although the correlational data (Table 12) show only a slight association between these factors, perhaps due to restricted sampling, other indicators suggest that students with poor reading ability do demonstrate behavioural problems, absenteeism, and school failure more so than students with good reading ability (See Tables 5 and 6).

Predicting School Failure

The ability to predict potential student failure is an important component of planning the allocation of human and monetary resources and is a part of school management in which counselors often take part. If students with learning difficulties are not to be left unaided until a semester or year after entry to junior high school then a reliable method must be used to identify most of the students who are in danger of failure to achieve.

The Partial Correlation

The results of a school-wide correlation between <u>SDRCT</u> pretest reading scores and subsequent GPA of all grade eight students showed that, on a school-wide basis, <u>SDRCT</u> pretest reading scores predict failure at a moderate level (r = .58, p < 0.161, N = 169). This finding is consistent with that of Espin and Deno (1993b) who reported a similar correlation between the Tests of Achievement and Proficiency and GPA (r = .57). The school-wide correlation indicates that for the students who can't read well, failure is an issue. However, a correlation does not sort out underachievers from students with reading disabilities. A visual examination of the data indicates that the moderate correlation may be due to the fact that underachievers (those who could read to a competent level) skew the correlational data. Strategies intervention students and LA students did fail one or more subjects, and, for the most part, more competent readers didn't. Using standardized reading scores may be an effective first step in sorting students who will fail in grade eight.

The Regression Analysis

A regression analysis of the behaviour, absentee, pretest, and gain scores of the students with learning disabilities in this study identified three significant predictors of student failure: teacher judgement of student behaviour, absenteeism, and SDRCT pretest reading comprehension scores. However, the goal of the correlation and regression is to assist in identifying those students who are predicted to fail but also to place students in a strategy intervention class where they will obtain strategy intervention to remediate a reading deficit. Grade seven teacher recommendations based on student behaviour are not always accurate. For example a wellbehaved student who is a neat writer can hide a reading disability quite effectively. Because of lack of accurate standardized testing data at the grade seven level in this district, teachers may not be aware whether a student has a reading comprehension deficit. Techniques such as assessment of oral reading ability and word recognition to identify students experiencing comprehension difficulties are not accurate enough as this technique identifies about 50% of the students who have reading comprehension deficits. Elementary teachers also tend to recommend underachieving students with behaviour problems for LA placements rather than well-behaved students with reading problems. These well-behaved students are often placed in inclusive, mainstreamed classes where many experience failure. Conversely, as evidenced by the 1995-1996 LA recommendations, grade seven teachers often do not recommend students with behaviour problem who also have reading deficits for LA. These students are often perceived to be careless, unorganized, uncaring, lazy. They are typically recommended for planner and homework checks to remediate potential at-risk behaviour rather than remediation of reading difficulties. These are the ten students who dropped out and could not be counted in this study.

Care must be taken to examine whether students with behaviour problems also have

reading deficits or whether they are in reality underachievers needing different intervention than that supplied by a paraphrasing strategy intervention which is designed to improve reading ability. Students with behaviour problems who can read and comprehend well enough do not belong in a reading remediation class but need differential treatment for the life and social issues that may be more suitably addressed by counseling.

The use of a standardized comprehension assessment tool becomes more important in identifying students who may behave in a socially acceptable fashion (ie. those producing neat looking work on time) but who still cannot read to a specific standard of competency that will allow these students to be successful consumers of the textual content material that is such an important facet of the high school experience. For example, in this study the use of a cut score at the ≤ 26 th percentile (GE 6.1) on the SDRCT pretest was able to predict with 88% accuracy those students who would fail one or more subjects. Students at this percentile read two years below grade level. Only five of 43 students (12%) falling at or below the \leq 26th percentile passed all subjects; two had been in learning assistance and three had been in inclusive placements with no assistance. None of these five students were identified as having behaviour problems which may be why they passed all their courses. It should be noted that teachers may pass students who obtain a border-line fail by pushing the mark up if the students is deemed to deserve a pass because of effort expended on a course and because of appropriate behaviour exhibited by the student. Even though a student might fail a final exam with dismal marks, well-behaved students may be passed based on classroom performance criteria. These students who passed, might have benefitted more from participation in the strategy intervention model than from regular class instruction and a passing grade for good behaviour. It is not yet known whether these students with reading disabilities, who were passed through their grade eight year, will eventually be held up by their reading disability in grade nine, ten, or beyond. It is difficult to conceive of students who read at a grade five or six level, and who continue to suffer from the cumulative deficit, coping with grade 11 and 12 literature.

A greater difficulty lies in identifying those students (n = 18) who score between the 27th to 39th percentile (G.E. 6.3 - 7.5) and who may fail to achieve in school. Thirty-nine percent of these students failed one or more subjects. A comparison of absentee data with failure rate indicates that all but two of 18 mid-range students who failed courses were absent eight or more

days during their grade eight year. The combination of pretest reading comprehension scores and rate of absenteeism in grade seven, may significantly predict failure to achieve in grade eight since absenteeism is moderately correlated to failure to achieve and was the second factor identified in the regression to predict failure to achieve in school subjects. These two variables identify the majority of students who are at risk of school failure. A convenience is that absentee data is readily available from student computer files. Furthermore, rate of absenteeism is a relatively unbiased variable compared to one teacher's judgement of student behaviour.

Conclusions

Three purposes have been of concern for me in this study. These include: (1) the evaluation of school programs so that the most beneficial programs to students with learning/reading/writing disabilities can be continued; (2) the possibility of a changing role of the counselor in relation to students with learning/reading/ writing disabilities; (3) the creation of a vehicle leading to information sharing about effective programs offered in the school district. These are discussed below.

This study has evaluated two school programs designed to prevent student achievement failure: a strategy intervention model class and the typical tutorial learning assistance class. The findings of this study suggest that the techniques of the strategy intervention class significantly improved the reading comprehension of students who displayed reading comprehension deficits. In contrast, the techniques of the learning assistance program failed to increase reading comprehension sufficiently to overcome a cumulative reading deficit. Learning assistance students continue to fall behind further and may potentially drop out of school due to the disparity between their ability to read with comprehension and the difficult reading requirements of the regular curriculum. Furthermore, the strategy intervention was able to intervene successfully with three times the number of students typically participating in learning assistance indicating that strategy intervention is a more cost effective intervention. Since four teachers served the learning assistance programs it should not be assumed that teacher variability made much difference. Learning assistance does not appear to serve its clientele well.

In addition to these findings, it may be that absenteeism and behaviour had little effect on the ability of students to learn new knowledge such as that of the strategy intervention. A powerful point in favour of the strategy intervention is that it had the capacity to increase the reading comprehension of the students in the SIM class regardless of absenteeism or behavioural problems. Frequent and low attending students increased their reading achievement at the same rate within their interventions and significant differences in absentee rates of the strategy and LA programs were not found. The type of intervention was the crucial element in reading gains, not the absenteeism of the students. However, absenteeism and its consequent effects did lead to the failure of school subjects. Furthermore, teacher judgement of student behaviour was associated with failure to achieve in school subjects but not in ability to make use of the strategy intervention. Again a significant difference in the behaviour of the two intervention groups was not found.

This study, perhaps, represents one of the first evaluations of learning assistance compared to strategy intervention. Furthermore, there is a paucity of data on effective high school learning assistance interventions in the research literature. The continuation of learning assistance programs that may not do what they claim to do is difficult to countenance. Evaluation of the programs in this study lead to the conclusion that strategy intervention is a better method of intervention. The Role of the Counselor

Larsen and Shertzer, (1987) support the notion that counselors should promote self-worth and self-confidence in students especially of potential dropouts. Bearden, Spencer and Moracco (1989) suggest that counselors create interventions centered around social issues, skills and selfesteem. Canfield and Wells (1976) and many of the authors presented in the journal, <u>The School</u> <u>Counselor</u>, believe that students with poor self-esteem and poor self-worth will consequently do poorly in learning to read and other academic achievements. Therefore, they treat the self-worth. These beliefs are held by many counselors who believe that self-worth is the most important issue they can address with students who are failing in school and exhibiting the absenteeism and negative behaviours leading to failure (Larsen & Shertzer, 1987). Counselors typically treat the absentee and behaviour symptoms which in reality result from inability to cope with curricular reading materials and which in turn lead to failure to achieve and lowered self-worth. The existence of reading disabilities are rarely identified. Students are given no methods to improve the word recognition and reading comprehension skill that might help them to cope with the curriculum they face every day.

Few of the counseling interventions suggested in the counseling literature support the

development of specific academic skills such as the improvement of reading comprehension. The position of this researcher is that counselors should concern themselves with recommending academic skill-based programs and strategies in LA that will lead to and promote academic success and self-worth. This study has affirmed the work of Kaplan, Peck, and Kaplan (1994), Trusty and Dooley-Dinkey (1993), Strein (1993), and McWhirter, McWhirter, McWhirter, and McWhirter, (1993) who have recommended domain specific interventions addressing the academic achievement deficits. They support the notion that students' academic success in school leads to increased self-esteem and self-worth as students interact in a school environment. Conversely, students who do not achieve well in school will experience lowered self-worth leading to school avoidance behaviours or inappropriate social behaviours in school as evidenced by the students in the strategy intervention and the LA classes.

Counselors must be aware of behaviour problems and absenteeism as they are associated with poor reading ability. The reverse is also true. The counselor must be aware that reading problems are intimately connected to behaviour problems, absenteeism, and failure to achieve in school. Counselors must reflect this knowledge in the recommendations made for students who are reading disabled, who are chronically absent, and who behave inappropriately towards teachers, fellow students, and schoolwork. Nomothetic and/or cross-categorical services such as those that address students' symptomatic behavioural difficulties or absenteeism do not address the underlying needs of students who need interventions for particular reasons such as a reading disability (Espin & Deno, 1993b). The interventions for students with reading disabilities and students with behaviour problems may need to be different unless both are associated. Students who cannot read are not likely to become better readers through a social intervention strategy intervention targeting interrelational problems because social strategies do not address the underlying reading difficulties and resulting failure identity. When reading deficits are addressed there may also be concurrent changes in the symptom behaviours.

This study began with the desire to explore the hypothesis that reading deficits could be improved. The results of this study indicate that students who are low in reading ability did not have to stay low in reading ability. Secondly, if reading ability could be improved in students demonstrating a reading deficit, then variables such as attendance, school success, and self-worth might also be affected. In fact, it has been shown by this study that students can improve a reading

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deficit significantly through the use of the Strategy Intervention Model - Paraphrasing Strategy. Furthermore, this study has provided data indicating that typical interventions such as those found in the usual LA programs do not have the ability to increase students' reading ability by any significant amount. An intervention other than the typical tutorial LA is needed to remediate reading deficits. A reading strategy intervention is suggested.

Limitations

The nature of school-based intervention and experiment make generalization difficult. The limitations of this study are typical of any limitations affecting a school-based intervention. Students, teachers, curricula, policies, administration, different school populations, different cohorts, different teaching methods, different interpretations of the strategy, different reading materials -- all affect each other and the results of any experimental changes that are introduced into a school setting. Any generalization and comparison to other situations and studies need to be done with care. In addition, in future studies of this nature circumstances and environments will always be different: no two teachers ever teach alike, or use the same teaching materials, or use the same teaching techniques and neither is the nature of any class of students ever the same. As with the studies cited in the literature review, replication will be difficult.

A weakness in this study is that groups are not randomly assigned to experimental interventions or control groups. A truly experimental study would also be considered ethically inappropriate. This study used intact classes and teacher judgment placed the students in the intervention groups. This is one of the factors that would make replication of this study difficult since teachers may differ in their knowledge of and judgments of students. In addition, the assignment of students to a control group in this study was done by a different method (SDRCT scores) than was assignment to the experimental SIM and LA classes (teacher recommendation and SDRCT scores) with teacher recommendation carrying the greater weight in the SIM and LA placements. In this study, there were not enough students available to create a comparable control group from students who were also recommended for intervention by their grade seven teachers but received only inclusive intervention because of dropout or transfer of students. These considerations limit the design of school-based studies and affects the ability to draw reliable and valid conclusions on the comparison of the No-LA students to the SIM and LA students.

Furthermore, sample sizes are small, being limited by the number of students who could be

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placed in a classroom, although the samples are still three times larger than those used in the strategy studies cited in the literature review. The results of this study may be more valid even though the sample number potentially affects the validity of the findings.

Nevertheless, I believe it is inappropriate to accept the belief that limitations to generalizability should prevent further study of a particular intervention such as the strategy intervention model and consequently stilling all further research. It is appropriate to examine the parameters of a potential intervention, to attempt the intervention, and to explore its ability to make a difference in the lives of students who otherwise fail, drop down, and drop out. That evaluation of intervention programs does not happen is negligent. Intervention based on appropriate evaluation signalling real success should be the norm.

Future Directions

Future research should entail the continued evaluation of the strategy intervention programs as well as learning assistance programs. Comparisons can be made with other typical LA programs. Furthermore, programs in other schools need to be encouraged to try to evaluate a strategy intervention and to compare the strategy intervention to typical LA interventions. The students whose programs are evaluated should be followed to senior high school to determine the effect of the SIM strategy intervention on the future success, including graduation, of these students who are reading disabled.

Generalization of strategy skills to other settings and classes, and which was not addressed in this study, is a concern of the Strategy Intervention Model. A goal of the strategy intervention is that students be able to use the intervention under different circumstances and in different classes without being prompted to do so. This could be addressed in a future study of the students who have been involved in the school-based SIM programs.

This study was also not able to determine whether improved reading achievement would lead to improved attendance, behaviour, and success rate in terms of school achievement over time. A future experimental study needs to be designed that does not contravene ethical considerations but that will demonstrate which variables are the cause and which are the effect. Further study also needs to examine the effect of a possible failure identity of students who are reading disabled and how that is associated with absenteeism and behaviour problems. Further research examining the effects of absenteeism on different groups of students might affirm or deny the findings regarding the lack of influence of absenteeism on learning and would be useful in making decisions regarding programming for students who experience a wide variety of learning or reading disabilities. Generalization of these findings, at this point, should only be tentative due to sample size and sample characteristics.

It was not the purpose of this study to demonstrate this point, but the data collected for this study indicates that the reading ability of elementary students in the catchment areas of these two schools is on a downward trend, exacerbating an already significant problem. The problem has been identified not just in one junior secondary school but in two schools and are believed to exist district-wide. McGill-Franzen & Allington (1991) have questioned the common assumption that low ability readers cannot improve sufficiently to make a difference. Different and better instruction is required especially since the problem of reading disability appears to be increasing. Research needs to be directed towards addressing the downward trend in reading ability.

The goal of this intervention was to try to retain those who read poorly by using a reading strategy intervention to improve their reading ability and academic skills. Clear improvement in reading comprehension was achieved, both at an absolute level, and also relative to the mean gain expected for grade eight. The SIM intervention was clearly better able to improve the reading achievement of students. The LA intervention, on the other hand appears to have had little beneficial effect, either to improve reading achievement, or absenteeism, or failure of its students. The success of the SIM intervention cannot be attributed to initial pretest scores, absenteeism, or behavioural differences in the students; it was effective regardless of these difficulties. The main limitation affecting the validity of this study was the failure to establish an equivalent control group. I believe only the SIM and LA groups were comparable. Teachers and counselors are encouraged to re-evaluate the effects of LA in their own schools, to try the strategy interventions, and to evaluate their effects on student school achievement in terms of improved academic skills and reduced dropout/transfer behaviours. Strategy intervention in this study has proved to be more successful than typical learning assistance or no assistance.

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