

**SELF-CONCEPT AND LOCUS OF CONTROL:
A STUDY OF INTERMEDIATE AND SECONDARY STUDENTS
WITH LEARNING DISABILITIES**

by

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B. ED. University of Saskatchewan, 1977

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

in

THE FACULTY OF GRADUATE STUDIES
(Department of Educational Psychology and Special Education)

We accept this thesis as conforming
to the required standard

THE UNIVERSITY OF BRITISH COLUMBIA

OCTOBER, 1987

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ABSTRACT

This study involving 43 intermediate and secondary level students with learning disabilities investigated two major areas. First, the relationship between four facets of self-concept and academic locus of control were examined. Second, the influences special education placement variables have on self-concept and locus of control were investigated.

Academic self-concept, general self-concept, math self-concept and verbal self-concept were measured by the Self Description Questionnaire III. Academic locus of control was measured by the Intellectual Achievement Responsibility Questionnaire; it also gives scores for internal locus of control for success and internal locus of control for failure. The special education placement variables were: age at first placement in a learning assistance centre (resource room); number of years spent in learning assistance centre; age at first placement in a self-contained special education class; number of years in a self-contained special education class; present placement (intermediate grade level or secondary grade level) and grades repeated.

The data indicated that general self-concept and academic self-concept were not related. Math self-concept, verbal self-concept and academic self-concept tended to be negative and general self-concept tended to be positive.

No statistically significant relationship was found between academic self-concept and internal academic locus of control. The sample tended to have negative academic self-concepts and internal academic locus of control. A positive relationship was found between general self-concept and internal academic locus of control. Internal locus of control for academic failure was positively correlated with internal locus of control for academic success. A positive relationship was

found between mathematics self-concept and verbal self-concept, with the majority of students having negative self-concept in both areas.

The age of first placement in a learning assistance centre and the number of years spent in the program did not influence either self-concept or locus of control. Age at first placement in a self-contained special education class did not relate to self-concept or locus of control. The number of years a child spent in a self-contained special education class was inversely related to internal academic locus of control.

No differences in self-concept or locus of control were found between intermediate and secondary grade level students.

An inverse relationship was found between grades repeated and internal academic locus of control. After failing only one grade, students still had an internal academic locus of control, but failing two or more usually indicated an external academic locus of control.

Limitations of this study were the problems with definition of the term learning disabilities and classification for the purposes of programming.

As a result of this study, it was concluded that further study of the influence special education programming has on the self-concept and locus of control of learning disabled students should be of a longitudinal or ethnographic nature.

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CHAPTER I: INTRODUCTION

BACKGROUND TO THE PROBLEM

Affective characteristics reflect how we feel about ourselves, others, and the world around us. At first we learn about ourselves through concrete experiences and the reactions of others. Gradually we form a concept of who we are, what we can and cannot do, and ultimately, our general worth. Affective characteristics are a crucial element influencing learning and achievement because they contribute to the amount of effort a learner puts forth to learn a specific task (Bloom, 1976). Two important affective characteristics related to schooling are self-concept - academic and general (Hamachek, 1978; Shavelson, Hubner & Stanton, 1976) and academic locus of control (Crandall, Katkovsky, and Crandall, 1965; Gilmore, 1978; Lefcourt, 1976; Phares, 1976).

A persistent theme in the literature on exceptional children questions the influence of special education on the affective development of the students being served. Research has emphasized the cognitive and psychomotor functioning of students who are classified as learning disabled, and generally has overlooked the affective component (Silverman & Zigmond, 1983). Deshler (1978) points out that programming for learning disabled students must consider all the salient characteristics of the learner. This study examines the relationship between self-concept and locus of control for a sample of learning disabled students at the intermediate and secondary levels. A second purpose of this study is to examine the possible relationship between special education programming variables and self-concept and locus of control.

In the learning disabilities literature there is evidence that students in

special education placements for learning disabilities have a more negative self-concept and an external locus of control when compared with students not having educational difficulties (Ames, 1978; Bryan & Pearl, 1979; Chapman & Boersma, 1979; Rogers & Saklofske, 1985). Others find no empirical evidence of differences in self-concept and locus of control between students in regular classes and students in special placements for learning disabilities (Kistner, Haskett, White & Robbins, 1987; Silverman & Zigmond, 1983; Watts & Cashion, 1983).

Contradictory findings among the studies can be attributed, in part, to the school systems' identification of learning disabled students. Controversy and uncertainty continues to exist regarding the causes and definition of a learning disability (Chapman & Boersma, 1980). Identification is a process which recognizes that because the needs of certain children are not being met in the regular classroom, special arrangements are necessary to accomodate them (Morrison, MacMillan & Kavale, 1985). Definitions of learning disabilities and criteria for entry into programs for learning disabilities differ among school districts. Students labelled learning disabled are not a homogeneous group from district to district. There is some agreement that students who are labelled primarily learning disabled have normal intellectual, physical, social, emotional, and cultural backgrounds. Learning disabled individuals are primarily characterized by a significantly below grade-level performance in one or more academic subjects (Chalfant & King, 1976; Ross, 1976).

Manifestations of learning disabilities are varied, but most educators and researchers believe that the learning problems experienced by these individuals can be compensated for or remedied. Research suggests that remedial efforts may be hindered by the development of negative affective characteristics in students

with learning disabilities, especially those students who have a history of persistent school failure (Covington & Beery, 1976; Hamachek, 1978). Other research indicates that students identified as learning disabled and placed in a special education setting may develop positive affective characteristics (Deshler, Schumaker, Alley, Warner & Clark, 1980). Special education placements are frequently characterized by positive reinforcement, experiences of academic success, individual attention, and close student-teacher relationships all of which would seem to promote positive affective feelings (Deshler, Schumaker, Alley, Warner, & Clark, 1980).

An investigation of the affective characteristics of the learning disabled in relation to special education placement may suggest how placement relates to the development of attitudes and perceptions. Before professionals dedicate major portions of instruction time to developing positive self-concept and internal locus of control affect we should know more about the affective characteristics of the learning disabled student. With such a description as an information base, then affective factors could be incorporated into remedial strategies to improve the learning situation for these students. This study should provide data on the affective development of students with learning disabilities who are at the intermediate and secondary grade level; at the present time such data are scarce.

STATEMENT OF THE PROBLEM

This study investigates two areas. First the relationship between the self-concept and locus of control of intermediate and secondary level students with learning disabilities is examined. Secondly the influences special education placement variables have on self-concept and locus of control are investigated.

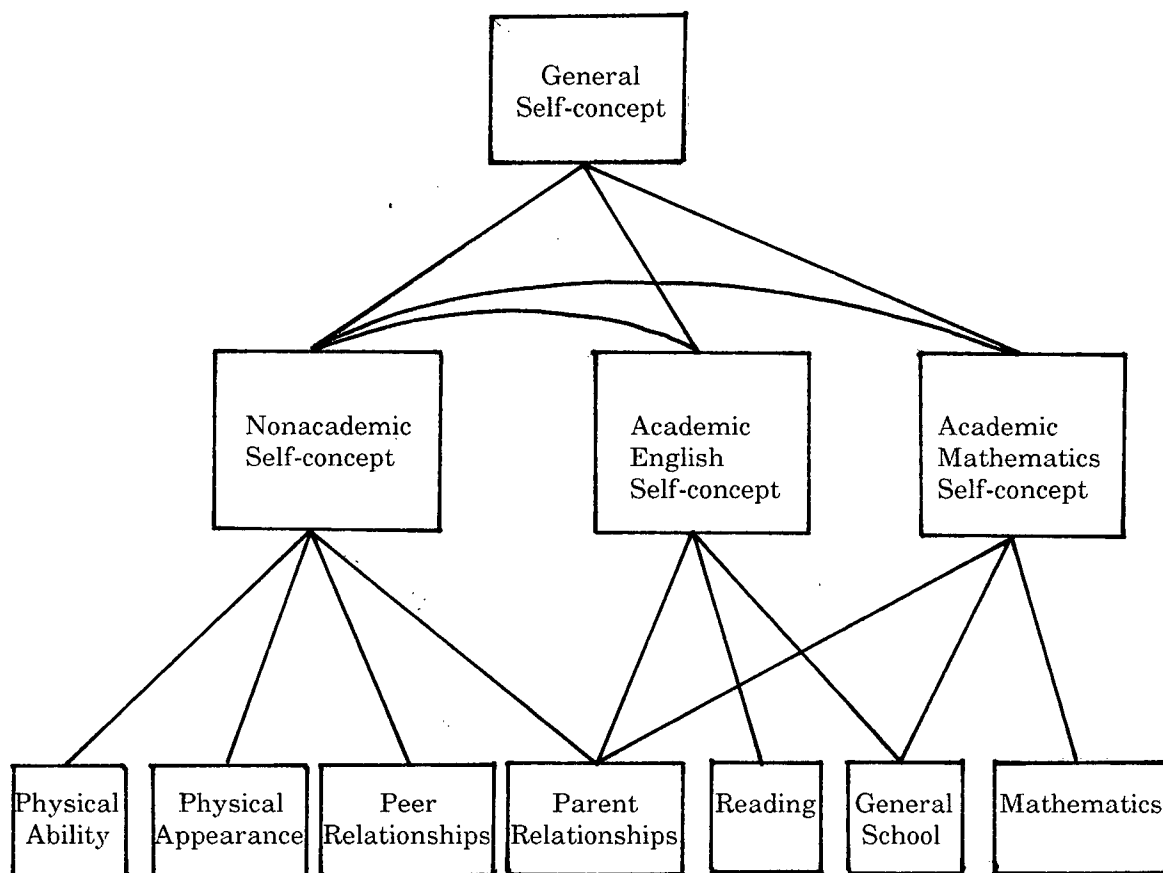
DEPENDENT VARIABLES

The construct self-concept is explained as perceptions of self. These perceptions are formed through experience with and interpretation of one's environment and are influenced by reinforcements, evaluations by significant others, and one's own attributions for one's behavior (Shavelson, Hubner & Stanton, 1976).

General Self-Concept

The agglomerate use of the term self-concept, even general self-concept, is a dubious practice, in light of the most recent literature in the area (Markus & Wurf, 1987; Marsh & Shavelson, 1985; Shavelson, Hubner & Stanton, 1976). General self-concept is considered to be measureable either with a weighted combination of several facets of self-concept or with scales that specifically are designed to measure a relatively unidimensional construct that is superordinate to specific self-concept facets. (Marsh & Shavelson, 1985). For example, on a general self-concept scale the subject considers various facets of self-concept and reaches a decision, or keeps a running tab on how he feels about himself, and responds accordingly (Shavelson, Hubner & Stanton, 1976). What is unknown is whether this process is simply a sum over facets, a weighted sum depending on the importance of the facet, or some other more complex process (Marsh & Shavelson, 1985). In this study general self-concept is considered to be at the apex of the hierarchy, as shown in Figure 1, with the general self resulting from the items in the general self subscale of a self-concept questionnaire.

FIGURE 1
STRUCTURE OF SELF-CONCEPT



From: Marsh, H.W. and Shavelson, R.J. (1985). Self-Concept: Its multifaceted, hierarchical structure. Educational Psychologist, 20, p. 114.

Academic Self-Concept

The term academic self-concept refers to a person's self-perception of their academic ability. An individual's definition of ability develops over a series of learning experiences as he receives many judgements of his performance and capability from significant others. In response to the information others provide, a person evolves a sense of academic self-worth which helps determine the degree of enthusiasm and motivation a person invests in future academic tasks (Chapman & Boersma, 1980).

Locus of Control

The construct locus of control delineated by Rotter (1966) has been used to describe whether individuals believe that the positive and negative reinforcements they receive are the consequences of their own actions or are due to factors beyond their personal control.

Internal locus of control refers to a person's expectation that he is in control or instrumental in obtaining rewards from his environment. External locus of control refers to the expectancy that rewards are out of one's control and determined by chance, luck, fate or an important person.

INDEPENDENT VARIABLES

The independent variables are classified as school history variables, according to the system of marker variables for research in the field of learning disabilities identified by Keogh, Major-Kingsley, Omori-Gordon & Reid (1982). The following independent variables are employed in this research:

1. The age at which a student first receives special education assistance in the learning assistance centre (resource room).
2. The number of years a student receives special education assistance in the learning assistance centre.
3. The age at which a student is first placed in a self-contained class for learning disabilities.
4. The number of years a student is enrolled in a self-contained class for learning disabilities.
5. The present program the student is enrolled in: either an intermediate level class or a secondary level class.
6. The number of grades a student repeats.

The rationale for the selection of these variables and their operational definitions are presented in Chapter III.

PURPOSE OF THE STUDY

The purposes of this study are three-fold:

1. To provide data to aid teachers and administrators in their understanding of learning disabled individuals in the intermediate and secondary grades.

2. To extend the current theory and knowledge about the relationship between the self-concept and locus of control of learning disabled individuals.

3. To examine whether special education programming has an influence on self-concept and locus of control; and if it does to suggest further areas of study.

RESEARCH QUESTIONS

The literature available on learning disabled students is contradictory. A sample of intermediate and secondary students has not been used to examine the relationship between self-concept and locus of control. Examinations of the relationship between the affective variables, self-concept and locus of control, and special education placement, in either a self-contained special education class or in a learning assistance centre, have been inconclusive. School failure is often associated with the development of negative affective characteristics. This study also examines the relationship between repeating grades in school and self-concept and locus of control.

1. SELF-CONCEPT AND LOCUS OF CONTROL

Are there significant relationships between:

- a. academic self-concept and general self-concept?
- b. academic self-concept and internal responsibility for academic failure?
- c. academic self-concept and internal responsibility for academic success?

- d. academic self-concept and academic locus of control?
- e. general self-concept and academic locus of control?
- f. responsibility for academic failure and responsibility for academic success?
- g. mathematics self-concept and verbal self-concept?

SPECIAL EDUCATION PLACEMENT

2. LEARNING ASSISTANCE CENTRE PLACEMENT

Are there significant relationships between:

- a. the age a child is first placed in a learning assistance centre and academic self-concept?
- b. the age a child is first placed in a learning assistance centre and academic locus of control?
- c. the number of years a child receives instruction in the learning assistance centre and academic self-concept?
- d. the number of years a child receives instruction in the learning assistance centre and academic locus of control?

3. SELF-CONTAINED SPECIAL CLASS PLACEMENT

Are there significant relationships between:

- a. the age a child is first placed in a self-contained special education class and academic self-concept?
- b. the age a child is first placed in a self-contained special education class and academic locus of control?
- c. the number of years a child is enrolled in a self-contained special

education class and academic self-concept?

- d. the number of years a child is enrolled in a self-contained special education class and academic locus of control?

4. PRESENT PROGRAMMING

Is there a significant difference between intermediate level subjects and secondary level subjects in:

- a. academic self-concept?
- b. general self-concept?
- c. academic locus of control?

5. GRADES REPEATED

Is there a significant positive relationship between:

- a. the number of grades repeated and academic self-concept?
- b. the number of grades repeated and general self-concept?
- c. the number of grades repeated and academic locus of control?

CHAPTER II: BACKGROUND OF THE STUDY

INTRODUCTION

The review of the literature deals with the following topics. First, the nature and characteristics of learning disabilities are briefly outlined. Research findings on the affective characteristics of learning disabled younger children are reported, and the descriptive data on these variables for older students are discussed. The role and importance of affective variables in school learning are considered. Next the affective characteristics of interest in this study, self-concept and locus of control, are then introduced and discussed. The literature that examines special education placement and its affects is examined. The chapter concludes with an integration of the self-concept and locus of control characteristics of learning disabled students and their possible relationship to placement decisions.

LEARNING DISABILITIES

The creation of the term "learning disabilities" reflects the realization by educators, parents and researchers that some children present an exceptional pattern of development (McKinney, 1984). Researchers in diverse fields continue to debate the proper definition, etiology, symptomology, diagnosis, and prognosis of learning disabilities. The debate reflects the fact that learning disabled children have, at different points in the past, been variously described as educationally retarded, autistic, dyslexic, perceptually handicapped, hyperactive, minimally brain damaged, neurologically disorganized, and emotionally disturbed. With this diverse range of classifications it is not surprising that the learning disabled label has become an umbrella term for a large number of learning and behavior problems

(Chapman & Boersma, 1980). Complicating the research even further, is the fact that the incidence of learning disabilities in school populations varies considerably, depending on the theoretical fiscal and legal perspectives of the school psychologists, school boards, and departments of education. It may be that the term learning disability is more acceptable to people than other labels often given to children who experience difficulty in academic situations.

Although considerable confusion still exists within the field with respect to the definition, etiology, symptomology, and diagnosis of learning disabilities, it appears that there is one indisputable point that teachers and researchers can agree on. The point of agreement is: there are children in regular classrooms who, despite their physical, intellectual, cultural, and social "normalcy", have difficulty in some aspects of school learning (Chalfant & King, 1976; Chapman & Boersma, 1980). But teachers and researchers, concerned with learning disabilities, also seem to agree that learning problems can be compensated for and sometimes remedied (Shepherd, 1976). Learning disabled children, just like their peers, are social beings; they learn through their interactions with the social as well as the physical environment, therefore, information regarding the role of affective factors is important when planning remedial or compensatory instruction. Descriptions of salient characteristics of the learning disabled will aid in the development of appropriate educational experiences for this population.

The early literature in the field of learning disabilities focuses mainly on the diagnosis and remediation of learning disabilities in elementary school children. Recent research on older students reflects the fact that children identified as learning disabled in elementary school progress through programs devised for them without the impact of their learning disability being substantially altered.

Learning disabled individuals enter the intermediate and secondary grades still hampered by their disability. Learning disabilities are not primarily academic problems; they continue to make a difference when young people are out of school and in jobs. Some studies have reported large numbers of learning disabled young adults having difficulty in post-secondary, vocational, and social situations (Ackerman, Dyckman & Peters, 1977, Blalock, 1982; Horn, O'Donnell & Vitulano, 1983).

Researchers continue to investigate the social and emotional implications of learning disabilities (Bryan & Bryan, 1981; Schumaker, Hazel, Sherman & Sheldon, 1984). Emotional and social problems are commonly reported concomitants of learning disabilities. The social skills of learning disabled children have been a major focus in learning disabilities research during the last ten years (Dudley-Marling & Edmiaston, 1985). The predominant conclusion is that it is common for learning disabled individuals to experience relatively low social acceptance (Bryan & Bryan, 1977; Pearl, Bryan & Donahue; 1980; Gresham, 1982; Serafica & Harway, 1979).

Negative affective variables are frequently linked with learning disabilities, but it is difficult to ascertain whether they cause the learning disability or simply are behaviors which are secondary to the frustrations that accompany learning problems (Black, 1974; Rogers & Saklofske, 1985). Nevertheless, there is evidence that students with learning disabilities experience significant problems in social adjustment, social perception, and motivation (Griffin, 1971; Rosenberg & Gaier, 1977) as well as in impulse control and the ability to tolerate frustration (Gardner, Warren & Gardner, 1977; Siegel, 1974).

The presence of secondary emotional disturbances in many learning

disabled populations is supposedly the result of feelings of inadequacy and inferiority (Wilgash & Patrich, 1982). It is suggested that years of despair, discouragement, frustration, rejection, and failure can produce emotional overlay and complicate the total adjustment of the learning disabled individual (Clements, 1968). Some learning disabled students believe they have disappointed their parents or teachers which may contribute to negative affect (Bryan & Bryan, 1981).

Little research exists that investigates how children with learning disabilities cope with their relatively low social status. Bruininks (1978) found learning disabled students over-estimate their social status, which he attributes to ego defensiveness rather than a lack of social perceptiveness. There is consistent evidence that children with learning disabilities do not enjoy popularity among their peers; they are less likely to be chosen as co-workers or playmates (Serafica & Harway, 1979). Negative personality characteristics are more apt to be attributed to children with learning disabilities by their peers, teachers, and strangers (Bryan & Bryan, 1977; Pearl, Bryan & Donahue, 1981; Gresham, 1982; Serafica & Harway, 1979). One study found that parents perceive their learning disabled child as less acceptable and more disturbed than their siblings (Owen, Adams, Stolz & Fisher, 1971).

Some researchers argue that academic failure and negative affective characteristics are the major unifying dimension of an otherwise heterogeneous group of children (Rogers & Saklofske, 1985). Affective reactions to success and failure in school are examined by a number of authors (Chapman & Boersma, 1980; Watts & Cashion, 1983). There is some agreement that prolonged failure experiences of learning disabled children have a profound effect on their affective

development (Bryan & Pearl, 1979; Shelton, 1977; Thomas, 1979). Under some investigation is the motivational pattern of the learning disabled, which takes into account how the students explain their academic performance. According to attribution theory, students' willingness to put forth the effort required to improve academic performance and their feeling about academic success and failure are determined, in part, by how they interpret the causes of their own academic success and failure (Tollefson, Tracy, Johnsen, Buenning, Farmer & Barke, 1982).

The majority of the attention given to affective functioning, focuses mainly on the construct of self-concept in elementary school-age children (Keogh, Major-Kingsley, Omori-Gordon, Reid, 1982); the few studies of affective status of learning disabled adolescents have conflicting results (Silverman & Zigmond, 1983). Literature has begun to reflect a growing awareness of the importance self-concept and locus of control have in the instruction of learning disabled students (Bendall, Toffefson, Fine, 1980; Serafica & Harway, 1979).

AFFECTIVE CHARACTERISTICS

Affect refers to how we feel about something. The development of affective characteristics is part of the growth of self, which is a social phenomenon, arising and developing in social contexts (Mead, 1934). Early in childhood affective characteristics are formed as the result of everyday experiences and interactions with other people (Khan & Weiss, 1973). Next to the home, the school is perhaps the most important social force in shaping and maintaining the child's affective characteristics (Purkey, 1970).

During the early school years, students begin to distinguish themselves from their peers as they learn what capabilities they possess and how these are

different from their peers (Kifer, 1975). Children's feelings about themselves and beliefs about their abilities influence both their behavior and interpretations of achievement-related experiences (Nicholls, 1976). These attitudes towards self, influence learning; individual attitudes may even explain why persons with comparable aptitudes sometimes learn and achieve differently (Messick, 1976). Bloom (1976) states that affective characteristics are a crucial component in school learning and achievement because they help to determine the extent to which a learner will put forth the necessary effort to learn a specific learning task.

Children's affective reactions to the experience of continuing success or failure in school are likely to influence their academic motivation and behavior; there are differences in willingness to expend effort on academic tasks between high and low achievers, which increases with the number of years in school (Bloom, 1976). White (1980) concurs; he states a student's personality dimensions are partially the result of histories of successful and unsuccessful academic achievement. As patterns of successful and unsuccessful accomplishments emerge, students begin to accept views about themselves and their abilities. Students who are generally successful develop positive affective characteristics, while those who usually experience failure do not (Bloom, 1976; Covington & Beery, 1976; Kifer, 1975). Eventually, these affective outcomes of learning become the affective behaviors in new learning tasks, and in turn, the student's prophecy for the next task, based on previous success or failures, becomes fulfilled (Bloom, 1976; Jones, 1977). Attempts to help underachieving children are hampered, and even rendered ineffectual, if the child develops negative affective responses to school tasks (Covington & Beery, 1976; Hamachek, 1978).

The work of Ellis (1962) and Ellis & Grieger (1977) suggests that self-destructive emotional reactions in adults are engendered by the specific nature of beliefs or expectations they have about certain situations. Ellis calls those beliefs irrational and suggests they are the result of childhood maladaptive, illogical interpretations of events. Therefore learning disabled children, because of the nature of their handicap, may be more vulnerable to developing more negative affective characteristics than positive.

Children's self-perceptions may be affected by placement in special education settings. The way schools are organized allows the child to associate with certain children and not with others during school time. The possible negative impact of special class placement on children's affective development has been a concern of educators for some time (Jones, 1977; Meyerowitz, 1962), but the evidence does not clearly support the expectation that special class assignment results in stigmatization and concomitantly diminished self-worth. Some studies examining placement of learning disabled children in special education settings have found students to have negative affective characteristics (Calhoun & Elliott, 1977; Meyerowitz, 1962). Other studies have found positive affective characteristics in the same population (Battle, 1979; Schurr, Towne & Joiner, 1972).

Increased sensitivity to the role motivation has in cognitive performance has spurred on the research into the affective variables of importance in learning settings. Wittrock (1986) suggests two questions that relate to the analysis of affective variables:

1. What are the affective or motivational consequences of placement in a special education program?

2. How pervasive and stable are the affective consequences of limitations in a particular area?

The answers to these questions as they relate to the learning disabled population may be useful in understanding and improving the cognitive and educational performance of students placed in special education settings.

The positive reinforcement, experiences of academic success, individual attention and close student-teacher relationships, often associated with special education settings, could have a cumulative effect on the affective characteristics of learning disabled students. That is, the affective characteristics of learning disabled children could vary with the number of years the students have been enrolled in special programs. Presently the available research in the area is inconclusive.

This study is limited to the examination of two affective characteristics, self-concept and locus of control. As indicated previously, the intent of this study is to examine the relationship between those affective variables and a number of special education placement variables in a sample of learning disabled students. Attention is now directed toward a discussion of each of these major variables.

Self-Concept

Self-concept, broadly defined, is a person's perceptions of him or her self. These perceptions are formed through experience with and interpretations of one's environment (Marsh & Shavelson, 1985). They are especially influenced by evaluations and reinforcements by significant others, and attributions for one's own behavior (Shavelson, Hubner & Stanton, 1976). Self-concept is further defined by Shavelson, Hubner & Stanton (1976) as follows:

1. It is multifaceted in that people categorize the vast amount of information they have about themselves and relate these categories to one another.
 2. It is hierarchically organized, with perceptions of behavior at the base moving to inferences about self in subareas (for example: academic - English and Mathematics), then to inferences about self in general.
 3. General self-concept is stable, but as one descends the hierarchy, self-concept becomes increasingly situation specific and as a consequence less stable.
 4. Self-concept becomes increasingly multifaceted as the individual moves from infancy to adulthood.
 5. It has both a descriptive and an evaluative dimension such that individuals may describe themselves ("I am happy") and evaluate themselves ("I do well in Mathematics").
 6. It can be differentiated from other constructs such as academic achievement.
- One possible representation of this model is shown in Figure 1, page 5.

Most early studies are criticized because they (a) lack a clear theoretical basis, (b) use psychometrically inferior instruments, and (c) use inappropriate methodological procedures (Shavelson, Hubner & Stanton, 1976; Wylie, 1979). In response to these criticisms researchers have sought to validate both the conceptual structure of the self-concept and interpretations of the instruments designed to measure it (Bryne, 1984; Bryne & Shavelson, 1986).

Shavelson, Hubner & Stanton (1976) propose a multifaceted model of self-concept which contains two major areas: academic self-concept and non-academic self-concept. Academic self-concept is in turn divided into subject matter areas and then into specific areas within a subject. Concomitantly,

non-academic self-concept is divided into social and physical self-concepts, and then divided into more specific facets. According to Shavelson et al., this model of self-concept implies that the closer to the base of the hierarchy, the more situation specific becomes each facet of self-concept. Therefore, self-concept of academic ability should be more closely related to academic achievement than to ability in social and physical situations. An earlier longitudinal study argues that self-concept of academic ability is the part of self-concept most closely linked to achievement in school, and therefore is more influential in terms of academic outcomes (Brookover, Erickson & Joiner, 1967; Brookover, LePere, Hamachek, Thomas & Erickson, 1967).

Academic Self-Concept

Academic self-concept refers to the evaluative definitions an individual holds of his ability to achieve in academic tasks as compared with others in his school class (Brookover et al., 1967). Evaluative definitions form as a result of an individual's perceptions of the judgement of significant others regarding his ability, along with his own self-perceptions of ability. The development of a positive self-concept is considered to be critical to overall personal and social adjustment (Coopersmith, 1967; Mead, 1934). Of special concern for professionals who work with school-age children is the relationship of self-concept to achievement (Purkey, 1970). Since academic self-concept develops as a function of the information teachers, other students, and parents provide regarding the individual's level of achievement (Bloom, 1977), learning disabled students may be susceptible to lowered academic self-concepts because of difficulties they encounter in school.

At various stages in learning a school task, marks and grades are

assigned and made public to children and to parents. As performance-related perceptions accumulate, a consistent pattern of achievement and self-perception develop. If performance has been satisfactory, future tasks are approached with confidence, but if performance has been inadequate, then students develop a belief in their inadequacy in respect to certain types of learning (Bloom, 1977).

Self-perceptions of academic ability may act as a functionally limiting factor in school success (Brookover & Gotlieb, 1964). Brookover et al. (1965, 1967) conclude that a positive academic self-concept is necessary for at least average school performance, but it is not a sufficient factor in itself in determining school success. They suggest that because of this necessary condition self-concept of ability, or academic self-concept, is a functionally limiting factor in achievement for most students. It is logical that learning disabled students are especially vulnerable to low academic self-concepts because, by definition, these children have a discrepancy between their estimated learning potential and actual performance, as contrasted with mentally handicapped students.

Academic self-concept and achievement in school have been linked by some authors (Haarer, 1965; Kifer, 1975). Other studies on academic self-concept produce more ambiguous findings, possibly because of the instruments that are used (Chapman & Boersma, 1980). Most studies employ the academic subscales of general self-concept instruments, and have found relationships between school achievement and the scores on academic subscales. Results range from non-significant to highly significant (Marx & Winnie, 1978).

Some studies on academic self-concept compare learning disabled children with their normally achieving peers (Boersma & Chapman, 1973, Rogers & Saklofske, 1985). Apart from these, there appears to be few, if any, studies

dealing specifically with academic self-concept in learning disabled intermediate and secondary level students. In terms of academic self-concept, it seems likely that the more time learning disabled students do without special education assistance the more academic failure experiences they will encounter. Academic failure experiences lead to the development of a lower academic self-concept.

Overall, studies indicate that academic self-concept has a significant and positive relationship to school achievement. High achievers generally indicate more positive self-concepts than low achievers. These results have been found when the Self Description Questionnaire III (Marsh & O'Neill, 1984), which is based on the model of Shavelson, Hubner & Stanton (1976), is used. As well, studies using this instrument indicate that subject-specific facets of verbal (English) self-concept and mathematics self-concept can be distinguished from, but correlated with, academic and general self-concept (Bryne & Shavelson, 1986; Marsh & Shavelson, 1984).

One reason for the absence of studies on academic self-concept in the past has been inadequate or non-existent instruments for measuring the construct. The scales that have been used are often developed for elementary school children or adults, and utilize inadequate psychometric development (Wylie, 1979). The recent development of the Self Description Questionnaire, however, offers a promising instrument for assessing academic self-perceptions of intermediate or secondary level students. This instrument has not been used specifically with a learning disabled population before this study, but the subscales in both academic and non-academic facets of self-concept will offer information about these students that is not tapped in other instruments.

Research in self-concept has shown that achievement measures are

substantially correlated with academic self-concept. Mathematics self-concept and verbal self-concept are highly correlated with their specific subject areas, but mathematics self-concept and verbal self-concept are not correlated (Marsh & Shavelson, 1985). Marsh & Parker (1984) attribute the discrepancy to the simultaneous operation of internal and external frames of reference. For example, consider a student who is below average in both math and English, an external comparison, but who has better math skills than English skills, an internal comparison. Depending on the relative strength of those two processes, this individual may have an average or even an above self-concept in mathematics. The external comparison process will lead to a positive correlation between verbal and mathematics self-concepts, the internal comparison process will lead to a negative correlation, and the joint operation of both will lead to small, near zero correlations.

General self-concept

There are numerous studies of the general self-concept of learning disabled students, but the findings are ambiguous. Studies assessing general self-concept can be almost evenly divided between those that show learning disabled children to be more negative about themselves than their peers (Black, 1974; Larsen, Parker & Jorjorian, 1973; Rogers & Saklofske, 1985; Rosenthal, 1973; Rosenberg & Gaier, 1977; Boersma, Chapman & Maguire, 1979) and those that do not (Lincoln & Chazan, 1979; Silverman & Zigmond, 1983; Swanson & Parker, 1971; Winnie, Woodlands & Wong, 1982; Kistner, Haskett, White, Robbins, 1987). A positive relationship between self-concept and achievement has been a consistent finding in the learning disabilities research (Black, 1974; Levitan & Kiraly,

1975). The cause and effect sequence remains unclear. No clear cut evidence is available which indicates what comes first, a positive self-concept or school success, a negative self-concept or school failure, but a strong reciprocal relationship is apparent and gives some credence to the theory that enhancing self-concept is a vital influence in improving academic performance (Purkey, 1970). Manifestations of learning disabilities include difficulties in reading, writing, spelling, computing, thinking, listening, or talking. The academic achievement of learning disabled students is generally low in one or more school subject areas and, as a result, it can be expected that these youngsters will be especially vulnerable to lowered self-concept (Morrison, 1985).

General self-concept taps a broader range of feelings and attitudes than just school related factors. Extrapolating from the studies outlined in this review, it seems possible that general self-concept will not necessarily be affected by academic difficulties whereas academic self-concept will be affected by problems in school learning.

Academic Locus of Control

The affective variable examined in this study is locus of control. The construct of locus of control is based on Rotter's (1954) social learning theory: the degree to which an individual believes his own actions to be the cause of reinforcements is a significant influence on his behavior. Locus of control is conceptualized as a continuum ranging from internal to external control. Internal locus of control refers to the expectancy that one is in control or instrumental in obtaining rewards from one's environment. External locus of control refers to the expectancy that rewards are out of one's control and determined by chance, luck,

fate, or an important person (Massari & Rosenblum, 1972).

Research suggests that those with an internal locus of control differ from those with an external locus of control in a number of ways (Massari & Rosenblum, 1972; MacDonald, 1973). For example, people with high internal locus of control differ in their preference for skill versus chance activities, show less delay in decision making, have better memory for various kinds of information, have more ability to forget failure experiences, have a lesser degree of conforming behavior, resist subtle influence, direct attempts to control the environment, show high risk-taking behavior, seek relevant information, and have greater academic achievement. A high external locus of control is associated with poor academic performance and social adjustment problems (Morgan, 1986).

A link between locus of control and learning seems logical. Locus of control is related to academic performance in a number of studies. The expected relationship between internal locus of control and academic achievement stems from the assumption that, if a person believes his successes and failures are the result of his own behaviors, he will be more likely to exhibit more initiative and persistence in academic tasks, thereby acquiring more information and more problem solving skills (McGhee & Crandall, 1968). If the student sees little relationship between the effort put into learning and task outcome he will likely not put much effort and persistence into the academic task.

One approach to understanding children's performance in achievement related settings is the attributional theory of achievement motivation proposed by Weiner (1972, 1976). Drawing on the locus of control work of Rotter (1966), Weiner's model provides a synthesis of cognitive and motivational constructs. Attributions are viewed as efforts to make sense of or to interpret the causes of

events. These perceived causes are presumed to determine subsequent affective responses, expectancies, and behaviors (Wittrock, 1986). Weiner's work focuses on attributions within an achievement context and suggests that there are four primary perceived causes of achievement outcomes: ability, effort, task difficulty, and luck. According to this model the four perceived causes represent three dimensions: stability, locus of control, and controllability (Weiner, Frieze, Kukla, Reed, Rest & Rosenbaum, 1971). A representation of this model is presented in Figure 2.

FIGURE 2
CLASSIFICATION SCHEME FOR THE PERCEIVED
DETERMINANTS OF ACHIEVEMENT BEHAVIOR

STABILITY	LOCUS OF CONTROL	
	INTERNAL	EXTERNAL
STABLE	ABILITY	TASK DIFFICULTY
UNSTABLE	EFFORT	LUCK

From: Weiner, B., Frieze, I., Kukla, A., Reed, L., Rest, S. & Rosenbaum, R. (1971). Perceiving the causes of success and failure. In E.E. Jones (Ed.), Attribution: Perceiving the causes of behavior. New York: General Learning Press, p. 6.

There is a link between Weiner's model and educational practice, because self-perceptions of competence are, in part, a function of the attitudes and behaviors of others (Wittrock, 1986). Children who have difficulties in traditional

school situations tend to be self-blaming for failure (Harter, 1974; MacMillan, 1971; Meyers & Morrison, 1980) and this kind of information has implications in planning for instruction. Dweck's work on learned helplessness, is the opposing position, he suggests that children who have difficulty in school, often attribute achievement outcomes to influences beyond their own control; that is they believe that outcomes are noncontingent with their own behavior (Dweck, 1975; Dweck & Goetz, 1978; Dweck & Reppucci, 1973).

Bendall, Tollefson & Fine (1980) state that determination of locus of control is vitally important to the structure of an academic program for learning disabled students. Their study indicates that students who have an internal academic locus of control are penalized in a highly structured learning situation; they ought to structure their own learning methods. And students who are external in locus of control increase their achievement in highly structured situations with immediate and fairly constant reinforcements.

Research within the general population has suggested that internal academic locus of control is associated with academic strength (Lavoie & Adams, 1976; Massari & Rosenblum, 1972; Messer, 1972; Wu, 1975) as measured on achievement tests and grades in school. The literature investigating that relationship with learning disabled children, however, is contradictory. Several investigations (Chapman & Boersma, 1979; Hallahan, Gajar, Cohen & Tarver, 1978; Pearl, Bryan & Donahue, 1980) have found significant differences in academic locus of control between learning disabled and non-learning disabled students on the Intellectual Achievement Responsibility Questionnaire (Crandall, Katkovsky & Crandall, 1965). These studies have consistently indicated that learning disabled children tend to attribute academic success to external causes,

(Fincham & Barling, 1978; Lincoln & Chazan, 1976; Nowicki & Roundtree, 1971). Adding to the ambiguity other investigations have not detected this pattern using the Intellectual Achievement Responsibility Questionnaire (Adams, 1977; Hiasma, 1976).

White's (1972) findings indicate that positive self-assuring adult evaluation appears to promote a sense of internal locus of control, while peer evaluation inhibits the development of internal locus of control. Special education assistance is frequently provided in a small group or individual setting for a portion of the day in a learning assistance centre (resource room) or all day in a self-contained special education class. Therefore, if students receive instruction in a special education setting they are more likely to be exposed to non-competitive success guaranteed tasks more frequently than failure situations and should, therefore have an internal locus of control for success before an internal locus of control for failure. Chapman & Boersma (1979) found that their learning disabled sample was no different than the control group in internal locus of control for failure, but they had an external locus of control for success. Lawrence & Winschell (1975) suggest that external locus of control may be unwittingly reinforced by teachers who give out ample reinforcement and encouragement hoping that by doing so a learning disabled student's self-confidence and achievement will improve. An investigation which examines the relationship between academic locus of control and variables relating to previous special education placement seems warranted.

The literature indicates that if learning disabled students believe they have poor academic abilities, then it is likely that they will view successful outcomes as beyond their control. Special education programs for students with learning

disabilities provide successful academic experiences for those students. No studies consider age of first placement in special education programs and number of years in special education programs as possible explanations for differences in locus of control within a learning disabled sample.

In the general population Kifer (1975) found a trend towards greater internal locus of control as a function of increasing age, while unsuccessful students showed a consistent and relatively external locus of control across age and grade levels. Given this developmental trend there should be a difference between the intermediate and secondary students, with the secondary level students being more internal than the intermediate level students.

As an alternative to contrasting results from learning disabled and non-learning disabled samples, an examination of locus of control within a sample of learning disabled students seems appropriate at this time.

Self-Concept and Locus of Control

So far, investigations of learning disabilities that examine both self-concept and locus of control rely on the procedure of comparing learning disabled students with their non-learning disabled peers. Rogers & Saklofske (1985) examine general and academic self-concepts, academic locus of control beliefs, and academic performance expectations of learning disabled and normally achieving children, ages seven to twelve. Their findings indicate that the learning disabled children are significantly different from the normal achievers. The learning disabled children have lower self-concepts, more external locus of control orientations, and lower performance expectations. Learning disabled children newly enrolled (less than three months experience) in resource room programs were significantly

different on the set of affective variables than learning disabled children with more than six months experience in such programs. The results provide evidence indicating that special programming has an effect on the affective variables, self-concept and locus of control. No pre-entry data for the groups are provided and they may have differed before entry into the special education program.

An accurate picture of the affective characteristics of learning disabled students at the intermediate and secondary levels remains to be drawn. According to Ackerman & Howes (1986) the literature in the area suffers from three shortcomings:

1. the reliance on the comparative paradigm in learning disabilities research,
2. the restriction of research settings to mainstreamed classrooms, and
3. the emphasis on peer relations in school.

The comparative paradigm assumes the ability to accurately match learning disabled and non-disabled subjects which obscures the important issue of the within group variability of the learning disabled population; this may be greater than the between group variability that has been the focus of comparative studies (Baumeister, 1967). Researchers rely upon the mainstreamed classroom, where learning disabled and non-disabled students are found together, but the mainstreamed classroom may constrain the learning disabled student's perception of his ability and control. Bryan & Bryan (1977) describe learning disabled students in the mainstream as being surrounded by hostile forces, which probably influence their performance on measures of self-concept and locus of control. Morrison (1985) and Perlmutter, Crocker, Corday & Garstecki (1983) suggest that the special class setting may be the best place to study the social and emotional characteristics of children with learning disabilities. While it is important to know

how children with learning disabilities get along with others in regular classrooms, the self-perceptions of these children may be more germane to improving their academic performance.

SCHOOL HISTORY VARIABLES

Students are identified as learning disabled for the purpose of service delivery, "not to create the neat, clean, describable categories of children that would constitute a population for research purposes" (Morrison, MacMillan & Kavale, 1985, p. 3). When a child's learning difficulty surfaces in the regular classroom the process of referral, assessment, identification, and possible special education placement begins. Before a child is formally referred for special education services, he typically experiences some recurring academic or social problems in adapting to the regular classroom environment. Some studies investigated the self-concepts of educable mentally handicapped children in relation to the length of time spent in special education programs (Mayer, 1966), while others (Caroll, 1967) studied the effects different degrees of segregation have upon the handicapped children's self-concept. Concern is often expressed regarding the possible detrimental effects labeling and stigmatization of special education placement might have on student's affective development.

In examining the effects of different configurations in classroom placements, studies have been somewhat contradictory (Morrison, 1985). A study of mildly retarded students who were allowed to remain in a partially integrated setting had higher self-concept scores than those students who were segregated (Caroll, 1967). Similar results are found with academically handicapped students (Strang, Smith & Rogers, 1978). These authors hypothesize that allowing a duo reference

group for social comparisons provides these students an alternative to the inevitable negative comparisons to their nonhandicapped peers. Studies with learning disabled students indicate that students who spend time mainly in segregated special day classes have higher self-concept scores than students who spend time mainly in regular class placement (Coleman, 1983; Yauman, 1980).

An important determinant of human behavior is the situational context in which it takes place. Special education has a long tradition of assuming that the problems exist within the children (Morrison, MacMillan & Kavale, 1985), and not within the situation the children are placed in. The implication for sampling is that investigators need to either control for or look for variability across the educational options in which learning disabled students are placed.

SUMMARY

Locus of control refers to an individual's generalized expectations that success or failure are due to internal or external factors, whereas self-concept can be described as a set of beliefs people have about themselves. A positive self-concept and an internal locus of control are generally viewed as desirable aspects of an individual's development. The majority of research findings indicate that internal locus of control and positive self-concept are positively correlated (Diesterhaft & Gerken, 1983; Hill, 1978). A recent study with a sample of nonhandicapped high school seniors found students with internal locus of control achieved at a higher level, but self-concept had no meaningful effect on achievement in the study (Keith, Pottebaum & Eberhart, 1986). Many individuals, including educators, have made the assumption that achievement is strongly related to self-regard (Wylie, 1979), yet a recent meta-analysis of research in this area found only a small,

positive average correlation between the two constructs (Hansford & Hattie, 1982).

We can conclude that there is little solid evidence concerning the extent of the effect self-concept and locus of control have on each other, because such variables are not generally amenable to experimental control (Keith, Pottebaum & Eberhart 1986). A review of the literature indicates that there is a body of research comparing learning disabled children and normal achievers on measures of self-concept and locus of control. The results are inconclusive and a base of knowledge in this area as it relates to intermediate and secondary level students is lacking.

The literature and research evidence suggests that learning disabled children have lower, or more negative, self-concepts than normally achieving children (Bryan & Pearl, 1979; Serafica & Harway, 1979). These differences are more consistent on measures of academic self-concept than on measures of general self-concept (Winnie, Woodlands & Wong, 1982).

The small number of studies comparing the self-concepts of learning disabled children varying in special education experience have produced inconsistent and inconclusive results (Battle, 1979; Halechko, 1978; Ribner, 1978). Studies comparing self-concepts of learning disabled children demonstrating varying degrees of success in remedial programming are lacking, with the exception of Murray (1978), who found that successful students had significantly more positive general self-concepts than unsuccessful students.

Evidence indicated that learning disabled children generally have a more external locus of control than normal achievers (Bryan & Pearl, 1979; Serafica & Harway, 1979). Two studies indicate that learning disabled children have a more

external orientation for successful academic experiences than normal achievers, but there were no significant differences between the groups for academic failure experiences (Chapman & Boersma, 1979; Pearl, Bryan & Donahue, 1980). Some investigations suggested that measures of academic locus of control are better able to discriminate between learning disabled and normally achieving children than measures of general locus of control (Tognetti, 1972; Tolor, Tolor & Blumin, 1977). None of the studies reviewed compared the locus of control orientations of learning disabled students in relation to the age when they first received special education assistance or the length of time they received special education assistance.

Another factor which may contribute to both self-concept and locus of control is failing a grade, but this seems to be neglected in the literature of learning disabilities. From a developmental perspective the differences between intermediate level and secondary level students on measures on self-concept and locus of control can increase our knowledge on the characteristics of older learning disabled people.

There is an assumption in the literature that low self-concept and external locus of control are inevitable concomitants of learning disabilities, but research findings do not support that contention. Positive reinforcement, experiences of academic success, individual attention and close student-teacher relationships are often associated with special education settings. Placement in a special education setting could have a cumulative effect on the affective characteristics of learning disabled students. Affective characteristics may vary with the number of years a learning disabled student spends in special education programming.

This study focuses on the within group variability of students identified as

learning disabled and documents their self-concept and locus of control, in relation to a number of variables related to their school history. The study examines the relationship between the two constructs, self-concept and locus of control, in a sample of learning disabled students, and in turn, investigates the relationships between several school history variables and affective variables.

CHAPTER III: METHODOLOGY

The first purpose of this investigation is to examine the relationship between two affective characteristics, self-concept and locus of control, within a sample of learning disabled students. The second purpose of this study is to investigate whether several school history variables, such as age at first special education assistance, number of years a student receives special education assistance and repeating grades, may be related to self-concept and locus of control.

DESCRIPTION OF THE SUBJECTS

Forty-three students (41 male and 2 female), ranging in ages from 10 years 2 months to 17 years 3 months, as of June 30, 1987, participated in this study.

Twenty-eight students (26 male and 2 female) were in the two Intermediate Learning Disabilities Classes; fifteen students (all male) were enrolled in the two Secondary Learning Disabilities Classes. The two intermediate classes were housed in elementary schools and the two secondary classes were in senior secondary schools. The four classes involved in the study were district programs. If students did not live in the neighbourhood where the school is located they were bused from their home neighbourhood to the school. The school district, from which the sample was drawn, provides services for approximately 9,000 students, and is a "bedroom community" in the Lower Mainland of British Columbia.

These students had been enrolled, for at least one school year, in a special class for students with learning disabilities. The following criteria were used as the basis for entrance into the intermediate and secondary level classes for learning disabilities:

1. Average or above average intelligence based on scores of the Weschler Intelligence Scale for Children - Revised;
2. Minimal academic progress in the regular program in spite of alternative teaching strategies and additional district support; and
3. consent of the student and parent or guardian.

This sample reflects the population of students who are often categorized as severely learning disabled or as having a specific learning disability. The term learning disabilities is a generic term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning or mathematics abilities. Even though a learning disability may occur concomitantly with other handicapping conditions (e.g. sensory impairment, mental retardation, social and emotional disturbances) or environmental influences (e.g. cultural differences, insufficient or inappropriate instruction, and psychiatric factors), it is not the direct result of these conditions or influences (Chalfant & King, 1976). Prior to placement in the program for learning disabilities each student was tested by a district diagnostician and recommendations for placement in the special class were discussed at a central screening meeting.

OPERATIONAL DEFINITIONS

Learning Disabilities

The students in this study have been classified as learning disabled by their school district's diagnostician and demonstrate significant discrepancies between apparent ability to learn and academic achievement, as determined by

standardized tests. They have normal or better intelligence, and exhibit no visual or auditory acuity difficulties, and are not primarily socially or emotionally handicapped.

Dependent Variables:

Academic Self-Concept

This term is made operational through the use of items from the Self Description Questionnaire III (see Appendix A), a measure of self-concept developed by Marsh & O'Neill (1984). The questionnaire is made up of twelve subscales or facets of self-concept and uses an 8-point Likert-type scale with responses ranging from definitely false to definitely true. This scale has been developed for older students. The academic self-concept subscale has 6 items that assess self-concept in specifically academic situations.

General Self-Concept

This variable is made operational through the eight item general self-concept subscale of the Self Description Questionnaire III.

Locus of Control

Locus of control is made operational through the use of the thirty-four item forced choice Intellectual Achievement Responsibility Questionnaire (Crandall, Katkovsky & Crandall, 1965; see Appendix B), which measures responsibility in academic intellectual achievement areas. Each item describes a positive or negative achievement experience followed by two alternatives: one attributes an

internal locus of control; the other an external source. In addition to a total responsibility score or academic locus of control score, (I tot), the scale yields two subscores, one for responsibility for success (I+) and one for responsibility for failure (I-).

These two measures, the Self Description Questionnaire III and the Intellectual Achievement Responsibility Questionnaire, are described in Chapter Three.

Independent Variables:

The following information was garnered from the individual student's cumulative file, confidential file, and pupil record card. The cumulative file contains copies of the student's report cards, registration forms, some medical information, various group administered test scores (e.g. Canadian Test of Basic Skills and kindergarten screening materials), and educational reports considered not to be confidential. Information regarding when a child was first referred for special education programming, who made the recommendation and the reasons for the referral are contained in the cumulative file. The confidential files contain individually administered test results and psychometric reports (e.g. WISC-R reports), and other information that is deemed personal and confidential. Pupil record cards are the permanent attendance records that are completed for every child. The schools attended, the grades received and the kinds of programs students have been placed in are recorded on the pupil record cards. The form used in the study to collect the data from the school files is found in Appendix C.

The age at which a student first receives special education programming

in a learning assistance centre. Students are grouped in age groups spanning one year; for example, all students who were placed in a learning assistance centre between age 5 and 5 years 11 months are in the 5 years of age category. Special education programming refers to help received outside the regular classroom; in this study the students' first special education experience was generally in the learning assistance centre in their school. In the learning assistance centre students receive individual or small group instruction in areas where they experience difficulty in the regular classroom.

The number of years a student received special education programming in a learning assistance centre. Five months or more was considered to be one year in learning assistance.

The age at which a student was first placed in a self-contained special class. A self-contained special education class refers to an educational placement where students are grouped for instruction because of educational difficulties associated with their learning disability. A school that is designed specifically for learning disabled students is considered a self-contained class placement for the purpose of this study.

The number of years a student was enrolled in a self-contained special education class.

The grade level of the students present program. One of two scores was assigned to each student in the following manner:

1. Intermediate Class for Learning Disabilities
2. Secondary Class for Learning Disabilities

The sample consisted of two classes at the intermediate level and two classes at the secondary level. The intermediate classes were located in elementary schools

and the secondary classes were located in senior secondary schools.

The number of grades the student repeated. One of three scores was assigned to each student in the following manner:

0. no grades repeated
1. one grade repeated
2. two grades repeated

A student is considered to have repeated a grade if his report card indicates he failed a grade. For the purpose of this study, if a student is held back and spends four years in the primary division instead of the usual three, it is considered repeating a grade.

INSTRUMENTS

Self Description Questionnaire III

This questionnaire was administered to all subjects. The Self Description Questionnaire III is designed to measure thirteen dimensions of self-concept that are derived from Shavelson's hierarchical model (Shavelson & Bolus, 1982; Shavelson, Hubner & Stanton, 1976). This scale has 13 subscales, 12 were administered during the data collection. The eight items of the Religion subscale were omitted. The subscales germane to this study were the Academic Self-Concept, General Self-Concept, Verbal Self-Concept, and Math Self-Concept. Other subscales administered were: Problem Solving/Creativity; Physical Ability/Sports; Physical Appearance; Relations With Same Sex Peers; Relations With Opposite Sex Peers; Relations With Parents; Honesty/Reliability; and Emotional Stability. The data from these subscales will be used in a later study.

Each of the 12 subscales is represented by 6 or 8 items, approximately half of which are negatively worded; in total 76 declarative statements were used. Students respond on an 8-point Likert-type scale, the response options vary from *1-definitely false* to *8-definitely true*. Marsh & O'Neill (1984) report internal consistency reliability coefficients ranging from .86 to .93 (median =.90) for the subscales, Mathematics, Verbal and Academic, and strong support for their construct validity based on interpretations consistent with the Shavelson, Hubner & Stanton (1976) model of self-concept. The subscales are: Academic; General; Mathematics; Verbal/English; Problem Solving/Creativity; Physical Ability/Sports; Physical Appearance; Relations With Same Sex Peers; Relations With Opposite Sex Peers; Relations With Parents; Honesty/Reliability; and Emotional Stability.

The Self Description Questionnaire III was selected for several reasons. It is devised for the pre-adolescent to older adolescent age group. This new instrument measures the multiple dimensions of self-concept; it has a well-developed factor structure (Marsh & O'Neill, 1984), and measures dimensions that are reliable, valid and based upon a strong theoretical model. Reviewers in the field of self-concept comment that one of the weaknesses within the field is the poor quality of the instruments used to measure it. This instrument provides information on several facets of self-concept that learning disabled students are frequently assumed to experience difficulty with, by using this measure we can begin to check those assumptions.

Intellectual Achievement Responsibility Questionnaire

The Intellectual Achievement Responsibility Questionnaire (Crandall, Katkovsky & Crandall, 1965) was administered to all subjects. This measure taps a belief in one's own control over, and responsibility for, intellectual-academic successes and failures. The Intellectual Achievement Responsibility Questionnaire is an instrument made up of 34 forced choice items which essentially describe a positive or negative achievement experience followed by two alternatives. Each stem is followed by one alternative stating that the event was caused by the respondent and another stating that the event occurred because of the behavior of someone else, either a parent, teacher, or peer in the child's environment. One half of the items measure the child's acceptance of responsibility for success events, the other half deal with responsibility for failure events. A total internality or academic locus of control score (I tot), and separate subscores for beliefs in internal responsibility for success (I+) and for failure (I-) are obtained from this instrument.

Intercorrelations between I+ and I- are non-significant for younger age groups (third-, fourth-, fifth-grade) but tend to increase in the positive direction for older children (sixth-, eighth-, tenth-grade). Test-retest coefficients for the I tot =.69, for the I+ =.66, and for the I- =.74. This instrument was chosen because it is one of the most reliable and valid measures of academic locus of control.

Scoring

On the Self Description Questionnaire responses to negatively worded items were reversed so that for all items a response of 8 represented a positive rating of self-concept. On subscales with 6 items, scores of 6 to 29 indicate a more

negative self-concept, scores of 30 to 48 indicate a more positive self-concept. On subscales with 8 items, scores between 8 and 39 indicate negative self-concept and scores between 40 and 64 indicate positive self-concept.

To obtain two groups that were divergent on the locus of control variable, students selecting 16 or fewer internal responses were considered to be external in locus of control orientation and students selecting 17 or more internal responses are considered to be internal in locus of control.

DATA COLLECTION PROCEDURES

The two affective scales were administered to the subjects as a class unit during a morning period in June, 1987. The Intellectual Achievement Responsibility Questionnaire was administered first and it took approximately 15 minutes. After a short break, the administration of the Self Description Questionnaire took approximately 25 minutes. To ensure a standardized presentation and to circumvent potential reading problems both scales were read aloud to the students by the researcher while the students silently read the questionnaires. Throughout the session the subjects were observed and all appeared to comprehend; students made responses at the appropriate times and did not appear to exhibit perseverative responses. In the initial instructions, prior to the administration of the scales, each class was encouraged to ask for clarification if they did not understand the wording or intent of a particular statement. On several occasions in each class, students did ask for further explanation.

The collection of the school history data took place in June, 1987. Once the parents had granted written consent and the students had agreed to participate in the study, the researcher was given access to the cumulative files,

confidential files and pupil record cards housed in the main office of each participating school. Information collected from these sources was complete.

DATA ANALYSIS

Data were collected on various facets of self-concept and locus of control in order to determine whether, and to what degree, a relationship existed between the two constructs within a learning disabled population. Pearson Product-Moment Correlation Coefficients were used to test the hypotheses related to the exploration of those two constructs. By computing the coefficient of correlation between the sets of scores, the relationship is described more accurately. Pearson Product-Moment Correlation Coefficients summarize the magnitude and direction of the relationship between two variables. The scores on the two scales employed in this study are measured in an arbitrary scale: hence correlation coefficients are preferred to covariances as measures of relationship. This study was designed to explore and test hypothesized relationships so the correlation coefficient is interpreted at the 95% level of confidence for statistical significance. For this study with 43 subjects, a Pearson Product-Moment Correlation Coefficient must be equal to or greater than .3044 to be statistically significant at the .05 level.

The independent variables of this study were: (1) the age a child is first placed in a learning assistance centre; (2) the number of years the student receives special education assistance in the learning assistance centre; (3) the age the student is first placed in a self-contained special education classroom; (4) the number of years the student is enrolled in a self-contained special education class; (5) the present level of class; (6) and the number of grades a student repeats. Pearson Product-Moment Correlation Coefficients were computed to

determine whether academic locus of control and academic self-concept are related to the independent variables. An alpha level of .05 was used to determine whether relationships are statistically significant.

To determine the differences on the affective measures between the intermediate and secondary groups, t-tests were used. A t-test was done to determine if a difference exists between the subscale scores on the IARQ, responsibility for academic success and responsibility for academic failure.

HYPOTHESES

A relationship is considered statistically significant when the Pearson Product-Moment Correlation Coefficient is at the alpha level of .05 or lower.

Self-Concept and Locus of Control

- 1.a. There is no relationship between academic self-concept and general self-concept.
- b. There is an inverse relationship between academic self-concept and internal locus of control for academic failure.
- c. There is a positive relationship between academic self-concept and internal locus of control for academic success.
- d. There is a positive relationship between academic self-concept and internal academic locus of control.
- e. There is a positive relationship between general self-concept and internal academic locus of control.
- f. There is a positive relationship between internal locus of control for academic failure and internal locus of control for academic success.

- g. There is an inverse relationship between mathematics self-concept and verbal self-concept.

Special Education Placement

2. LEARNING ASSISTANCE CENTRE PLACEMENT

- a. There is an inverse relationship between the age a child is first placed in a learning assistance centre and academic self-concept.
- b. There is an inverse relationship between the age a child is first placed in a learning assistance centre and internal academic locus of control.
- c. A positive relationship will exist between the number of years a child receives instruction in the learning assistance centre and academic self-concept.
- d. An inverse relationship will exist between the number of years a child receives instruction in the learning assistance centre and internal academic locus of control.

3. SELF-CONTAINED CLASS FOR LEARNING DISABILITIES

- a. There is an inverse relationship between the age a child is first enrolled in a self-contained special class and academic self-concept.
- b. There is an inverse relationship between the age a child is first enrolled in a self-contained class and internal academic locus of control.
- c. A positive relationship will exist between the number of years a child is enrolled in a self-contained special education class and

academic self-concept.

d. An inverse relationship will exist between the number of years a child is enrolled in a self-contained class and internal academic locus of control.

4. PRESENT PLACEMENT

T-test analyses are used to test the following hypotheses; to be significantly different the calculated T score must be greater than the assessed assessed T score.

a. Students in the intermediate level class will have a significantly different academic self-concept than students in the secondary level class.

b. Students in the intermediate level class will have a significantly different general self-concept than students in the secondary level class.

c. Students in the intermediate level class will have a significantly different academic locus of control than students in the secondary level class.

5. GRADES REPEATED

A relationship is considered to be statistically significant when the Pearson Product-Moment Correlation Coefficient is at the alpha level of .05 or lower.

a. There is an inverse relationship between grades repeated and academic self-concept.

b. There is an inverse relationship between grades repeated and

general self-concept.

c. There is an inverse relationship between grades repeated and academic locus of control.

CHAPTER IV: RESULTS

This chapter presents the results of the study and describes these findings in terms of the research hypotheses posed in Chapter Three. The first results investigate the relationship between self-concept and locus of control. Next the results related to special education placement are discussed. Concluding the chapter are the ancillary findings which may aid in describing the characteristics of learning disabled intermediate and secondary level students.

AFFECTIVE CHARACTERISTICS

Self-Concept and Locus of Control

The Self Description Questionnaire III (SDQ) is used to measure the following facets of self-concept: academic self-concept; general self-concept; mathematics self-concept; and verbal (English) self-concept. On the six item subscales, academic self-concept, mathematics self-concept, and verbal self-concept, a score of 30 or higher indicates a more positive self-concept.

On the academic self-concept subscale the sample mean was 24.28 (SD=10.48), which suggests a more negative self-concept. Thirty-two students (74.4%) scored in the negative self-concept range and eleven (25.6%) scored in the positive self-concept range.

The sample mean for math self-concept was 26.84 (SD=10.09), which suggests a more negative self-concept in math. Twenty-six students (60%) scored in the negative range and seventeen (40%) scored in the positive range on the math self-concept subscale.

On the verbal self-concept subscale the mean was 26.63 (SD=8.37), which

suggests the sample also tends to have a negative self-concept of their verbal ability. Twenty-seven students (63%) scored in the negative range and sixteen students (37%) scored in the positive range on the verbal self-concept subscale.

On the general self-concept subscale a score of 40 or higher indicates a more positive self-concept. The mean of the sample was 44.91 (SD=12.64). Fifteen (35%) of the forty-three subjects scored in the negative general self-concept range and twenty-eight (65%) scored in the positive general self-concept range. Table 1 displays the means and standard deviations the sample obtained on the Self Description Questionnaire.

TABLE 1
SELF-CONCEPT
SELF DESCRIPTION QUESTIONNAIRE III

SCALE	MEAN	STANDARD DEVIATION
MATHEMATICS SELF-CONCEPT (positive n=17) (negative n=26)	26.84	10.09
VERBAL SELF-CONCEPT (positive n=16) (negative n=27)	26.63	8.37
ACADEMIC SELF-CONCEPT (positive n=11) (negative n=32)	24.28	10.48
GENERAL SELF-CONCEPT (positive n=28) (negative n=15)	44.91	12.64

NOTE: Math, Verbal, and Academic subscale scores range from a possible 6 to 48. General self-concept scores range from 8 to 64 with higher scores indicating more positive self-concept.

Academic locus of control was measured by the Intellectual Responsibility Achievement Questionnaire (IARQ). The three scores it provides are: a total internality score or academic locus of control score (I-tot); responsibility for success score (I+); and responsibility for failure score (I-).

An academic locus of control score of 17 or higher indicates more internal locus of control. As scores get lower, an external locus of control is indicated. The mean of this sample was 19.74 (SD=4.33). The scores of nine subjects (21%) indicate more external academic locus of control. Thirty-four subjects (79%) have scores that suggest an internal academic locus of control.

On the two subscales, internal responsibility for academic success (I+) and internal responsibility for academic failure (I-), scores of 8 or higher indicate a more internal locus of control. The mean of the sample on the I+ was 11.49 (SD=3.06). On the responsibility for academic success scale, five subjects (12%) are categorized as having an external locus of control and thirty-eight (88%) are classified as having an internal locus of control. The mean of the sample on the I- was 8.26 (SD=2.29). On the responsibility for academic failure scale, seventeen (40%) are classified as having an external locus of control and twenty-six (60%) are classified as having an internal locus of control. Table 2 displays the means and standard deviations of the sample on the Intellectual Achievement Responsibility Questionnaire.

TABLE 2
LOCUS OF CONTROL
INTELLECTUAL ACHIEVEMENT RESPONSIBILITY QUESTIONNAIRE

SCALE	MEAN	STANDARD DEVIATION
RESPONSIBILITY FOR SUCCESS (I+)	11.49	3.06
(internal n=38) (external n= 5)		
RESPONSIBILITY FOR FAILURE (I-)	8.26	2.29
(internal n=26) (external n=17)		
TOTAL RESPONSIBILITY SCORE I(tot)	19.74	4.33
(internal n=34) (external n= 9)		

NOTE: I+ and I- scores range from 1 to 17. Scores between 8 and 17 are generally considered to indicate a more internal locus of control. The maximum score for the scale is 34, scores above 17 are generally considered to indicate a more internal locus of control.

Pearson Product-Moment Correlation Coefficients were calculated on the self-concept and locus of control instrument data of the 43 subjects. Correlations were calculated for academic and general self-concept scores and for the subscale scores on the locus of control instrument. The correlation coefficients for the pairs of variables are shown in Table 3. The significance levels are included in the table.

TABLE 3
PEARSON PRODUCT-MOMENT CORRELATIONS
SELF-CONCEPT AND LOCUS OF CONTROL

	ACADEMIC	GENERAL	MATH	VERBAL	SUCCESS	FAILURE
ACADEMIC	---					
GENERAL	.1036 (p=.254)					
MATH	.4569 (p=.001)	.0299 (p=.424)				
VERBAL	.3129 (p=.021)	.2896 (p=.030)	.3309 (p=.015)			
SUCCESS	.2654 (p=.043)	.4276 (p=.002)	.3250 (p=.017)	.1487 (p=.171)		
FAILURE	-.0318 (p=.420)	.1901 (p=.111)	.1409 (p=.184)	-.0844 (p=.295)	.2980 (p=.026)	
CONTROL	.1705 (p=.137)	.4023 (p=.004)	.3039 (p=.024)	.0604 (p=.350)	.8634 (p=.000)	.7389 (p=.000)

Note:

ACADEMIC: ACADEMIC SELF-CONCEPT
 GENERAL: GENERAL SELF-CONCEPT
 MATH: MATHEMATICS SELF-CONCEPT
 VERBAL: VERBAL SELF-CONCEPT
 SUCCESS: RESPONSIBILITY FOR SUCCESS
 FAILURE: RESPONSIBILITY FOR FAILURE
 CONTROL: ACADEMIC LOCUS OF CONTROL

Hypothesis 1.a states there is no relationship between academic self-concept and general self-concept. These two variables were not significantly correlated ($r=.1036$, $p=.254$), therefore these variables appear to be unrelated.

Hypothesis 1.b states there is an inverse relationship between academic

self-concept and internal responsibility for academic failure. Academic self-concept was inversely but not significantly correlated ($r = -.0318$, $p = .420$) with internal responsibility for academic failure, therefore a relationship is not found.

Hypothesis 1.c states there is a positive relationship between academic self-concept and internal locus of control for academic success. Academic self-concept correlates ($r = .2654$, $p = .043$) relatively weakly with the responsibility for academic success. There may be a relationship between these variables.

Hypothesis 1.d states there is a positive relationship between academic self-concept and internal academic locus of control. No significant correlation ($r = .1705$, $p = .137$) was found between these variables, so no relationship is suggested.

Hypothesis 1.e states there is a positive relationship between general self-concept and internal academic locus of control. General self-concept correlates with academic locus of control, ($r = .4023$, $p = .004$), therefore a relationship probably exists between these variables.

Hypothesis 1.f states there is a positive relationship between internal locus of control for academic failure and internal locus of control for academic success. Since $r = .2980$ at the $p = .026$ level is statistically significant, taking responsibility for academic failure and taking responsibility for academic success may be related.

Hypothesis 1.g states there is an inverse relationship between mathematics self-concept and verbal self-concept. The relationship between these variables is positive, $r = .3309$, which is significant at the $p = .015$ level. Within this sample a positive relationship exists between students' feelings about their math abilities and feelings about their verbal abilities.

Six of the sample (13%) who had a negative academic self-concept had an external locus of control for academic success. No one in the sample had a positive academic self-concept and an external locus of control for academic success. Twenty-six (60%) students had a negative self-concept and an internal locus of control for academic success. There were eleven students (26%) with a positive self-concept and an internal locus of control for academic success experiences.

Twenty-six students (60%) with a positive general self-concept had an internal academic locus of control. Students with a positive general self-concept probably have an internal academic locus of control.

Thirty-seven of the subjects (86.0%) had an internal locus of control for academic success and six (14.0%) had an external locus of control for academic success. The results for external locus of control for failure showed less discrepancy; nineteen students (44.2%) had an external locus of control for academic failure and twenty-four students (55.8%) had an internal locus of control for academic failure experiences.

It is interesting to note that twenty-six of the students (60.5%) had negative math self-concepts and twenty-seven (62.8%) of the students had negative verbal self-concepts. There was a slight tendency, 19 students (44%), towards a negative math self-concept and a negative verbal self-concept.

Ancillary Findings

Table 3 includes Pearson Product-Moment Correlation Coefficients that were not part of the hypotheses of the study, but the descriptive data are noteworthy.

Math self-concept and academic self-concept appear to be related, $r=.4569$

at the $p=.001$.

Verbal self-concept appears to be related to academic self-concept ($r=.3129$, $p=.021$).

Math self-concept does not correlate with general self-concept ($r=.0299$, $p=.424$); but verbal self-concept does correlate with general self-concept ($r=.2896$, $p=.030$).

Math self-concept correlates with internal locus of control for success ($r=.3250$, $p=.017$), but not with internal locus of control for failure ($r=.1409$, $p=.184$).

In the same way, math self-concept correlates with internal academic locus of control, ($r=.3039$, $p=.024$), but verbal self-concept does not appear to correlate with internal academic locus of control, ($r=.0604$, $p=.350$).

SPECIAL EDUCATION PLACEMENT

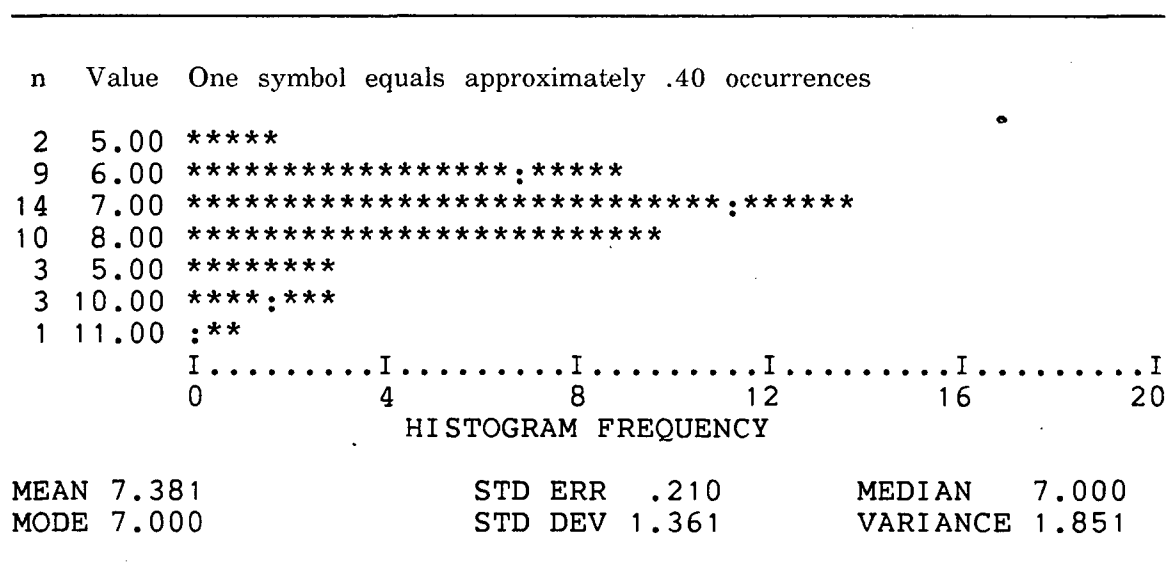
The following results relate to the relationships between the independent variables and the dependent variables, self-concept and locus of control. Subjects' scores on the Self Description Questionnaire III and the Intellectual Achievement Responsibility Questionnaire are correlated with each independent variable. Table 4 displays the Pearson Product-Moment Correlation Coefficients referred to in the following discussion. The correlation coefficients are considered statistically significant at or below the .05 level. The actual significance levels are included in the table.

TABLE 4
PEARSON PRODUCT-MOMENT CORRELATION COEFFICIENTS
SPECIAL EDUCATION PLACEMENT AND AFFECTIVE VARIABLES

SPECIAL EDUCATION PLACEMENT	AFFECTIVE VARIABLES	
	ACADEMIC SELF-CONCEPT	ACADEMIC LOCUS OF CONTROL
1. AGE FIRST PLACED IN A LEARNING ASSISTANCE CENTRE	-.0030 (p=.492)	.0309 (p=.423)
2. NUMBER OF YEARS SPENT WITH LEARNING ASSISTANCE	-.1178 (p=.226)	.0303 (p=.423)
3. AGE FIRST PLACED IN SELF-CONTAINED SPECIAL ED CLASS	-.1409 (p=.184)	-.0044 (p=.489)
4. NUMBER OF YEARS IN SELF-CONTAINED SPECIAL ED CLASS	-.0027 (p=.493)	-.2773 (p=.036)

The mean age when this sample first received special education programming in a learning assistance centre was 7.38 years (SD=1.36). The age students first received special education programming ranged from 5 years to 11 years 2 months. See Figure 3 for a visual display of the frequency data.

FIGURE 3
HISTOGRAM
AGE AT FIRST PLACEMENT IN
LEARNING ASSISTANCE CENTRE



Hypothesis 2.a states there is an inverse relationship between the age a child is first placed in a learning assistance centre and academic self-concept. The results displayed in Table 4 indicate an inverse relationship, but it is not statistically significant ($r = -.0030$, $p = .492$). Age of first placement in a learning assistance centre does not appear to influence academic self-concept.

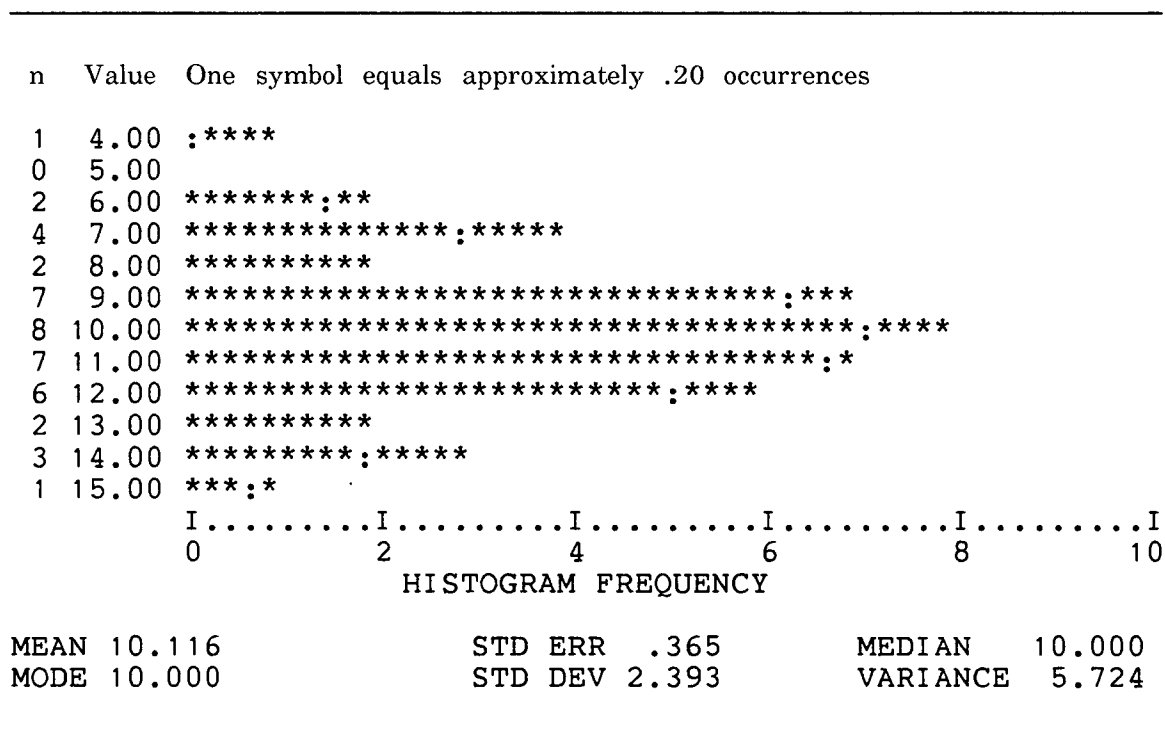
An inverse relationship between the age a child is first placed in a learning assistance centre and internal academic locus of control is stated in

Hypothesis 2.c states that a positive relationship will be indicated between the number of years a child receives instruction in the learning assistance centre and academic self-concept. An inverse, but not significant relationship is indicated ($r = -.1178$, $p = .226$). The number of years a child has received learning assistance programming does not appear to influence academic self-concept.

An inverse relationship between the number of years a child receives instruction in the learning assistance centre and internal academic locus of control is predicted in Hypothesis 2.d. The computation of the correlation coefficient does not indicate a significant relationship ($r = .0303$, $p = .423$). The conclusion is that the number of years of learning assistance programming does not appear to influence internal academic locus of control.

The subjects were placed in self-contained special classes at a mean age of 10.11 years ($SD = 2.39$). The ages of first placement in a self-contained special education class range between 4 years 9 months and 15 years 2 months. Figure 5 provides a visual display of the frequency data.

FIGURE 5
HISTOGRAM
AGE FIRST PLACED IN
SELF-CONTAINED SPECIAL EDUCATION CLASS



Refer to Table 4 for the findings of the Pearson Product-Moment Correlation Coefficient computations.

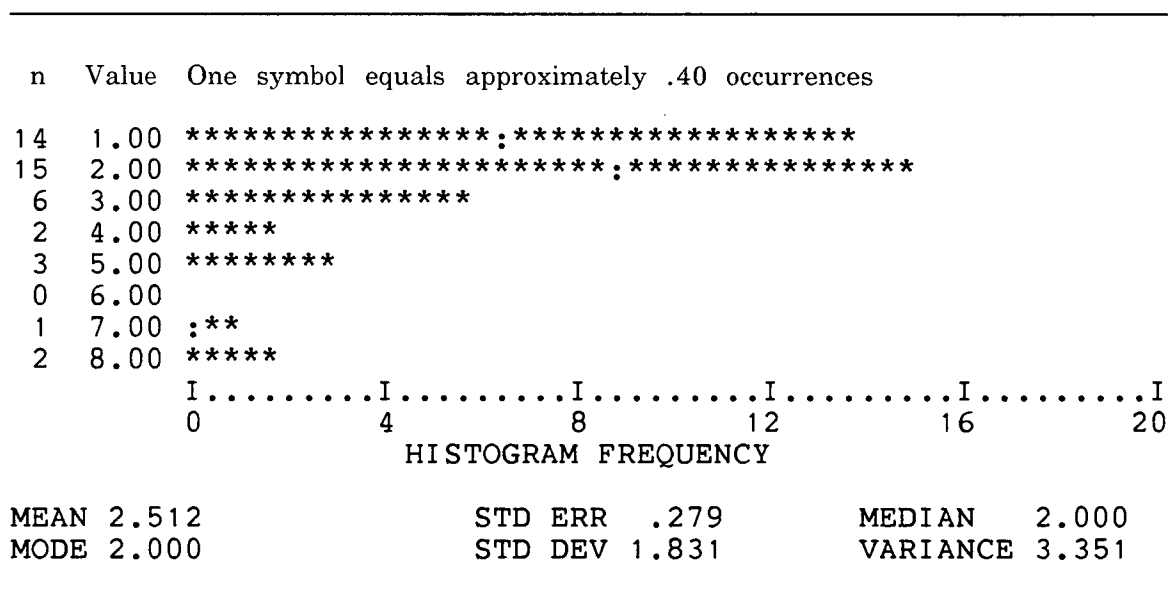
Hypothesis 3.a states there is an inverse relationship between the age a child is first placed in a self-contained class and academic self-concept. No significant correlation ($r = -.1409$, $p = .184$) is suggested, although a negative value was found. The conclusion is that the age a child is first placed in a self-contained special class does not appear to relate to academic self-concept.

An inverse relationship is predicted in Hypothesis 3.b between the age a

child is first placed in a self-contained special class and internal academic locus of control. The findings indicate that the negative relationship is not statistically significant ($r=-.0044$, $p=.489$). No relationship may be assumed on the basis of these findings.

The mean number of years this sample has been placed in self-contained special education class is 2.51 years ($SD=1.83$). Years in attendance in this kind of program ranged between 1 year and 8 years. Figure 6 provides a visual display of the frequency data.

FIGURE 6
HISTOGRAM
TOTAL NUMBER OF YEARS IN
SELF-CONTAINED SPECIAL EDUCATION CLASS



Hypotheses 3.c states there is a positive relationship between the number of years a child spends in a self-contained special class and academic self-concept. The inverse correlation is not statistically significant ($r = -.0027$, $p = .493$), the number of years a child spends in a self-contained special education class does not appear to relate to academic self-concept.

An inverse relationship between the number of years a child spends in a self-contained special education class and internal academic locus of control is predicted in Hypothesis 3.d. This negative correlation is statistically significant ($r = -.2773$, $p = .036$). Therefore the conclusion in this study is that the number of years a child spends in a self-contained special education class is inversely related to internal academic locus of control.

The mean age of the students in the intermediate classes was 11 years 7 months. Students in the intermediate class ($n = 28$) ranged in age from 10 years 3 months to 13 years 2 months. Students in the secondary classes ($n = 15$) had a mean age of 14 years 8 months. Their ages ranged from 13 years 8 months to 17 years 3 months.

Table 5 displays the T-Test data referred to in the following discussion.

TABLE 5
T-TEST
INTERMEDIATE LEARNING DISABLED STUDENTS
AND
SECONDARY LEARNING DISABLED STUDENTS

Variable	n	Mean	SD	SE	t-test
ACADEMIC SELF-CONCEPT					
Group 1 ¹	28	25.8571	11.349	2.145	t= 1.36 df= 41
Group 2	15	21.3333	8.165	2.108	(p=.180)
GENERAL SELF-CONCEPT					
Group 1	28	44.8214	13.551	2.561	t= -0.06 df= 41
Group 2	15	45.0667	11.171	2.884	(p=.952)
ACADEMIC LOCUS OF CONTROL					
Group 1	28	20.3214	4.603	0.870	t= 1.20 df= 41
Group 2	15	18.6667	3.677	0.950	(p=.237)

¹Group 1 - Intermediate Level Students

Group 2 - Secondary Level Students

Hypothesis 4.a states that students in an intermediate class will have a significantly different academic self-concept than students in a secondary class. The mean academic self-concept for the intermediate students was 25.86 (SD=11.34). The secondary students had a mean score of 21.33 (SD=8.16). Since $t(.05) (41df) = 2.021$ and $t(o) = 1.36$ the hypothesis is rejected. There appears to be no significant difference between the two groups in academic self-concept.

In Hypothesis 4.b the null hypothesis is that students in the intermediate

level class will have a significantly different general self-concept than students in the secondary level class. The mean general self-concept score for the intermediate students equals 44.82 (SD=13.55); and the mean general self-concept score for the secondary students equals 45.06 (SD=11.17). The $t(.05)$ (41df)=2.021 and $t(o)=-0.06$, so the null hypothesis is rejected. No difference was apparent between the two groups in general self-concept.

Hypothesis 4.c states that students in an intermediate class will have a significantly different academic locus of control than students in a secondary class. The intermediate students had a mean academic locus of control score of 20.32 (SD=4.60); the secondary students had a mean score of 18.66 (SD=3.67). The hypothesis is rejected because $t(.05)$ (41df) = 2.021 and $t(o) = 1.20$. The two groups do not differ in academic locus of control.

In this sample 27 students (62.8%) repeated one grade, 7 students (16.3%) repeated two grades, and 9 students (20.9%) did not repeat any grades. The results of the Pearson Product Moment Correlation Coefficients are displayed in Table 6.

TABLE 6
PEARSON PRODUCT-MOMENT CORRELATION COEFFICIENTS
REPEATING GRADES AND AFFECTIVE VARIABLES

	AFFECTIVE VARIABLES		
	ACADEMIC SELF-CONCEPT	GENERAL SELF-CONCEPT	ACADEMIC LOCUS OF CONTROL
REPEATING GRADES	.1140 (p=.233)	.1205 (p=.221)	-.2565 (p=.048)

Hypothesis 5.a states that there is a negative relationship between grades repeated and academic self-concept. The positive relationship ($r=.1140$, $p=.233$) did not indicate statistical significance. Repeating a grade does not appear to relate to academic self-concept in this sample.

The hypothesis 5.b states that a negative relationship exists between grades repeated and general self-concept. The results indicate that the relationship is not statistically significant, ($r=.1205$, $p=.221$).

The final hypothesis 5.c states there is an inverse relationship between grades repeated and internal academic locus of control. The computation of the correlation coefficient indicates an inverse relationship that is statistically significant, ($r=-.2565$, $p=.048$). In this study grades repeated does appear to be related to internal academic locus of control.

Nine students had an external academic locus of control (5 students had failed one grade, 2 students had failed 2 grades and 2 students had not failed any grades). Thirty-four students had an internal academic locus of control (22 had failed one grade, 5 had failed two grades and 7 had not failed any grades).

CHAPTER V: DISCUSSION AND CONCLUSIONS

DISCUSSION OF RESULTS

A common assumption in the literature on exceptional children is that identifying children as exceptional and isolating them from the larger school population results in a diminution of their affect. Negative self-concept and external locus of control are often the affective characteristics ascribed to learning disabled students. One of the bleakest scenarios is this description by Rosenberg & Gaier (1977):

"The adolescent with a learning disability has established a pattern of academic failure: He is a child forced to realize his differentness in academic areas, coupled with a sense of impotence to eradicate his learning handicap leading to feelings of inadequacy, lack of self-esteem and helplessness in the learning setting."

This study did not find evidence that suggests the above to be true. Affective characteristics may be just as diverse as cognitive characteristics and educators should be aware of the diversity when planning programs for students with learning disabilities.

Affective Characteristics

Many educators readily agree with this seemingly logical argument - students who experience academic difficulties will have a poor self-concept. Academic failure and negative affective characteristics are often assumed to be the concomitants of learning disabilities. These beliefs begin with the idea that a student, whose performance is below the anticipated grade level, but whose assessed intellectual

ability is within the normal range, would harbour lower self-perceptions as a result of their lower performance. These students achieve below the average level of achievement, consequently, it is believed they will have a negative self-concept. It is assumed that learning disabled students frequently fail in academic pursuits, then as a result of such repeated negative results they disassociate themselves from these negative experiences by placing the responsibility for their failures on such external factors as teachers and school. Failure experiences not only result in the shifting of responsibility but they also produce feelings of negative self-concept. If students are placed in a special education setting, where some of the failure and frustration are removed, they should then not experience such negative affective development. Educators place a high value on academic achievement and success, but pre-adolescents and adolescents could have different values, consequently their self-perceptions would be influenced by those values. This study investigated the affective characteristics of learning disabled students, who have been placed in special education programs because of the difficulties they encounter in academic areas.

One area examined in this study was self-concept. No statistically significant relationship was found between academic self-concept and general self-concept. The learning disabled subjects in this study had a mean score that indicated negative academic self-concept. Their mean on the general self-concept scale was in the positive range. Negative scores on the general self-concept scale did not always predict negative scores on the academic self-concept scale. The findings of this study seem to support the theory Shavelson et al. (1976) postulate that academic self-concept and general self-concept are separate facets of self-concept.

Although the results were not significant the tendency for the students to have negative academic self-concepts and positive general self-concepts is noteworthy. General self-concept according to Shavelson et al. (1976) taps a broader range of feelings and attitudes than just school related factors. It seems logical that general self-concept is not controlled by academic difficulties whereas academic self-concept will be affected by problems in school learning. In this study the subjects had more negative scores than positive scores in math self-concept and verbal self-concept, two sub areas of academic self-concept.

Frequently educational objectives, especially in special education, refer to improving self-concept. Educators should be aware of the difference between academic self-concept and general self-concept. In the classroom teachers have the skills to indirectly contribute to the development of more positive academic self-concepts. For example, helping a student learn a challenging math concept will usually improve on his math self-concept and his academic self-concept may also improve. It will take many other successes in a variety of situations to improve general or global self-concept.

Social comparison theory (Covington & Beery, 1976; Hamachek, 1978) could be one interpretation of the present findings. One way people determine their self-worth is to compare themselves with others; the most common comparisons made are with peers. Children who see themselves as not as successful in academic pursuits as their peers would probably have a negative academic self-concept. If these children were as successful in non-academic as their peers they would probably have a more positive self-concept. The student who experiences difficulty in school may unconsciously choose to weight those negative experiences with a smaller value than areas where success is

experienced. Success may be in areas unrelated to school and school achievement. If a person places a high value on academic success then difficulties in academic areas will influence self-concept, and indirectly influence general self-concept. If a person does not place a high value on academic success then academic self-concept may not be influenced greatly if success is not achieved. School related failure experiences would have even less influence on general self-concept when the person does not place a high value on academic success.

A positive correlation between mathematics and verbal self-concept, at first seems to be contrary to the multifaceted explanation of self-concept posited by Shavelson, Hubner & Stanton (1976). However, Marsh & Parker (1984) provide an explanation relating the simultaneous operation of internal and external frames of reference. A student who operates on an external comparison process, evaluates performance in both math and English in comparison to classmates and the average performance of the class. A student who operates on internal comparison will compare his own performance in a particular class against his performance in other subjects. Consider a student who has an average or above average self-concept in math, but who has better math skills than English skills. If the external comparison was stronger there would be a positive correlation between verbal and mathematics self-concepts. If the internal comparison was stronger there would be a negative correlation. The joint operation of internal and external comparison would lead to a small, near zero correlation. According to the theory outlined by Marsh & Parker (1984) these students tend to use an external comparison when evaluating their performance. They appear to choose to compare themselves with their classmates. This theory parallels the social comparison theory and both seem plausible in light of the present findings. The

results, with the low means in both mathematics self-concept and verbal self-concept, suggest that learning disabled students may lump their feelings about their school ability into one estimation, and in this study the subjects' estimations were generally low.

Another area examined in the study was internal academic locus of control. More subjects in the sample had an academic locus of control than an external one. The majority (88%) of the subjects were classified as having an internal locus of control for academic success. On the locus of control scale for academic failure over half the students (60%) had an internal locus of control. The belief that learning disabled students can be characterized by an external locus of control appears to be questionable. A possible relationship between academic self-concept and internal academic locus of control was a major area of investigation in this study. Research with normal achievers has revealed inconsistent results in the relationship between academic self-concept and internal academic locus of control (Keith, et al., 1987). Self-concept has been differentiated from achievement (Shavelson, et al., 1976). and it may be that academic self-concept and academic locus of control are related but differentiated constructs.

When teachers expect learning disabled students to have a negative self-concept and an external locus of control, they may, with the best of intentions, plan their special education programs accordingly. They may use lots of praise and structure guaranteed success experiences for the students. Bendall, et al, (1980) investigated the structure of special educations programs and found that learning disabled students with an external locus of control were more successful in highly structured settings. Internal students faired better in a less structured environment. Educators must be aware of how affective characteristics

influence learning. The assumptions related to self-concept and locus of control of students in special education programs need to be examined if the development of positive affective characteristics are continually stated as goals and objectives of special education programs.

No significant relationship was found between academic self-concept and internal locus of control for academic failure. Although the majority of student (32/43 or 74.4%) had negative academic self-concepts, the sample was rather evenly split between internal and external locus of control. A weak relationship was found between academic self-concept and internal locus of control for academic success. The subjects tended to have a negative academic self-concept and an internal academic locus of control.

While inconclusive, these results are contrary to earlier findings that indicated that learning disabled children tend to be external for experiences of academic success (Chapman & Boersma, 1979). In this study the subjects were more internal than external for both success and failure experiences. Such attitudes may be a function of their special education experience. Positive self-assuring adult evaluation provided by the special education teacher could promote internal locus of control (White, 1972). These data call into question the idea that special education teachers unwittingly foster external academic locus of control by the reinforcement and encouragement they dispense (Lawrence & Winschell, 1975). The developmental trend of greater internal locus of control as a function of increasing age (Kifer, 1975) may be another explanation for the findings with this intermediate and secondary level sample. Within the sample negative academic self-concept appeared to be more a consistent characteristic than external academic locus of control.

A positive relationship between general self-concept and internal academic locus of control was found in this study. Subjects who had a positive general self-concept appeared to have an internal academic locus of control. Previous studies which found correlations between self-concept internal academic locus of control frequently used general or global self-concept measures. Earlier findings implied that learning disabled students tended to have negative self-concept and external locus of control (Bryan & Pearl, 1979; Chapman & Boersma, 1979; Rogers & Saklofske, 1985).

Academic self-concept did not correlate significantly with academic locus of control. Both are considered to be related to achievement. In this study students tended to have a negative academic self-concept and an internal academic locus of control.

A positive relationship was found between internal locus of control for academic failure and internal locus of control for academic success, with the majority of subjects having an internal locus of control on both subscales. Previous research found children who have difficulties in "traditional" school situations tend to be self-blaming for failure (Harter, 1974; MacMillan; Meyer & Morrison, 1980). The present findings appear to lend support to the results of those earlier findings. If the majority of the learning disabled population is like this sample and tend to have an internal locus of control then highly structured learning situations, often advocated for learning disabled students, may be detrimental to their learning (Bendall, Tollefson & Fine, 1980).

Ancillary Findings

Math self-concept and verbal self-concept were positively correlated with academic self-concept. Mathematics and verbal ability are related to overall academic ability, so it is not surprising that a correlation is found between the math and verbal self-concept subscales and the academic self-concept subscale. Math self-concept was positively correlated with internal academic locus of control, but verbal self-concept did not correlate with academic locus of control. This discrepancy at first appears odd, but students are frequently encouraged to use compensatory strategies in math class, for example using a calculator. Once students know how to help themselves they could feel more in control of their academic lives. Verbal skills required in school may be less amenable to compensatory strategies, therefore the student may have a lower verbal or English self-concept, but success in other academic areas may contribute to an overall positive academic self-concept. The reverse may also exist, that is a student who is verbally proficient may not have success at math or science and his academic self-concept may suffer.

Math self-concept did not correlate with general self-concept, but verbal self-concept was positively related to general self-concept. The correlation between verbal self-concept and general self-concept could indicate that one's facility with language and communication may have a greater impact on general self-concept than does math ability. Ability to use language and communicate with others influences most aspects of peoples' lives.

Special Education Placement

The contention that by being classified as learning disabled immediately implies failure in academic situations seems erroneous when the stated goals of many special education programs are considered. Special education programs are often designed to allow students to experience success in academic areas (Alley & Deshler, 1979). Matching instructional strategies with individual children's learning strategies is frequently an emphasis in this type of programming. Helping students understand and compensate for their learning disability in terms of their strengths and weaknesses has become a focus in special education instruction.

The age a child is placed in either a learning assistance centre or in a self-contained special education class did not appear to influence either self-concept or locus of control. The majority of students in this study received their first special education assistance by age 7, only seven children were placed in learning assistance programs at nine years of age or older. It was found that students placed at ages 7 to 8 tended to have more negative academic self-concepts than students placed at ages 5 to 6, or at age 9 and older.

The findings for general self-concept were the opposite, children placed at ages 7 and 8 tended to have more positive general self-concepts. The largest number of subjects had an internal academic locus of control and had been placed in a learning assistance centre at either age 7 or age 8. Most of the students were placed in special education placements between the ages of six to eight (33/43 subjects) and "late" placement was impossible to calculate because of the lack of discrepancy within the sample. The school district appears to be identifying learning disabled children early in their schooling. It could be that children who are identified early in their school careers have more noticeable

difficulties in school related tasks. A more negative scenario is that once a child is a recipient of special education programming he will probably remain in special education programming throughout his school career.

The number of years a child had spent in special education, either in a learning assistance centre or a self contained special education class, made no difference in academic self-concept but it appeared to relate to internal academic locus of control. The lack of relationship with academic self-concept may be due to the small sample size or to the lack of discrepancy within the sample in the number of years students had spent in the special education programs. Two years ago the school district implemented their present program for learning disabled children; prior to that time the services for these students were scarce. Another contributing factor is maybe that special education programming is a stimulating and comfortable placement for children who have difficulty in adjusting to regular education placement (Towner & Joiner, 1966). In this district students have not been in the special class placement for a long period of time which may account for the tendency towards internal academic locus of control. The number of years in a self-contained special education classroom was inversely related to internal academic locus of control. It appears that the more years a student spends in a self-contained special education class the more likely he or she is to have an external academic locus of control; and the fewer years spent the more likely a student will have an internal academic locus of control.

No difference was found in academic self-concept, general self-concept or internal academic locus of control between the intermediate and secondary level students. The age difference between the two groups was probably not large enough for an effect to be measurable. Students with learning disabilities across

age groups may have similar affective characteristics, which could be associated with having a learning disability. Locus of control tends to be more internal as people approach adulthood, so the finding of more subjects having an internal locus of control than an external locus of control reflects the trend in the general population.

No significant relationship was found between failing a grade and either academic self-concept and general self-concept. This finding is puzzling in light of the literature that equates failure with lowered self-concept. Kistner et al. (1987) examines the idea that learning disabled children with very positive self-concepts consistently over-estimate their abilities. She found these "exaggerators" exhibit more severe academic deficits than students who had more negative self-concepts. Anecdotal teacher reports indicate that exaggerators demonstrate more inappropriate behavior in the classroom, seem to have fewer friends and exhibit more negative moods than learning disabled children with more realistic self-ratings. The subjects in this study had generally negative academic self-concepts and positive general self-concepts, although the positive self-concepts would not be classified as extremely positive scores. Subjects may have repeated a grade, in other words given one more chance in a regular education class, and then when their difficulties were not ameliorated during the repeated year, they may have been placed in a special program for learning disabilities. Teachers and parents are becoming more knowledgeable about learning disabilities and are counselling the learning disabled students about the difficulties they are experiencing. Professionals provide information to assist the students in realizing that a learning disability does not mean they are "dumb".

The relationship between failing a grade and internal academic locus of

control indicates that children who fail one grade may have an internal locus of control for failure. But when they fail more than one grade they are just as likely to blame others or bad luck (external locus of control) for that failure as they are to take responsibility for it (internal locus of control). These results are puzzling. They may be an aberration of this particular data sample, an artifact of the sampling procedure. The instrumentation may not be refined enough or not in the form needed to assess the influence repeating grades has on self-concept and locus of control. The results are not statistically significant and, therefore, cannot be discussed with any confidence.

SUMMARY

One of the postulates of Shavelson et al. (1976) in their delineation of the construct self-concept is that self-concept is multifaceted. People categorize the vast amount of information they have about themselves and relate these categories to one another. In this study there was no significant relationship between academic self-concept and general self-concept which supports their contention.

Another aspect of the theory states that self-concept is hierarchically organized with perception of behavior at the base moving to inferences about self in subareas then to inferences about self in general. The tendency for the sample to have negative mathematics and verbal self-concepts and positive general self-concepts supports that aspect of the Shavelson et al. (1976) argument. According to those researchers, general self-concept is stable, but as one descends the hierarchy, self-concept becomes increasingly situation specific and as a consequence less stable.

Frequently instruction time is being used to help students develop a "more positive self-concept." If self-concept is a multifaceted hierarchical construct then the most logical place to start improving a child's self-concept is in a specific facet of self-concept. Educators may be most successful in attempts to change academic self-concept when they begin with a subject specific area. Because of a filtering or rippling effect general self-concept would be the last area, if it is influenced at all, to be "improved" as the result of a teaching intervention aimed at improving self-concept. Improving self-concept in Mathematics, has been correlated with improved grades on mathematics tests (Marsh & Parker, 1985). The efficacy of affective education may need to be scrutinized more closely. Agreement that positive affect is instrumental in learning is unanimous, but the methods of improving affect are diverse. Further research that examines questions dealing with affective education may aid educators in programming for learning disabled students.

The results of this study indicated the tendency within the sample of intermediate and secondary grade level learning disabled students to have an internal academic locus of control and a negative academic self-concept. These findings add credance to earlier research that found children who have difficulties in school situations tend to be self-blaming for failure (Harter, 1974; MacMillan, 1971; Meyers & Morrison, 1980). It appears that students with learning disabilities may think they are responsible for their poor scholastic performance because they believe they have low academic ability.

Positive self-assuring adult evaluation is supposed to promote a sense of internal locus of control while peer evaluation inhibits the development of internal academic locus of control (White, 1972). The instruction in a special education

setting where students are exposed frequently to non-competitive success guaranteed tasks may contribute to the present finding: the tendency towards an internal academic locus of control.

The determination of academic locus of control is important to the structure of an academic program for learning disabled students. Bendall, Tollefson and Fine (1980) found that students with an internal academic locus of control are penalized in a highly structured learning situation and they recommended that these students should be allowed to structure their own learning methods. The tendency of the present sample towards having an internal academic locus of control is noteworthy and should be considered when planning programs for the learning disabled at the intermediate and secondary grade levels.

This study found that students who had an internal locus of control for academic success experiences would probably also have an internal locus of control for failure experiences. This seems to be a contradiction of an earlier finding where learning disabled students had an internal locus of control for failure, but an external locus of control for success (Chapman & Boersma, 1979). In this study the learning disabled sample took equal responsibility for their academic failures and successes.

The present study did not indicate a relationship between academic self-concept and internal locus of control for failure experiences, but there was a weak positive relationship between academic self-concept and internal locus of control for success. The majority of students in this sample, although they had a negative academic self-concept, took responsibility for their successful academic experiences which is contrary to earlier research which found that learning

disabled students view successful outcomes beyond their control (Chapman & Boersma, 1980).

A positive relationship was found between general self-concept and internal academic locus of control, but academic self-concept did not correlate with internal academic locus of control. The tendency of this sample to have positive general self-concept and an internal academic locus of control may indicate that global feeling of self are better indicators of locus of control than are more specific facets of self-concept. These students may feel good about themselves as a whole and may feel they are in control or responsible for what happens to them. Because these students were placed in a self-contained special education classroom they may believe they lack academic ability in relation to the students in the regular classes.

The negative mathematics and verbal self-concepts of the sample correlated with the negative academic self-concepts. Mathematics self-concept did not correlate with general self-concept, but verbal self-concept did correlate with general self-concept. Facility with language may contribute to better communication and positive experiences that are reflected in positive general self-concept scores. Whereas poor facility with language may contribute to poor communication, being misunderstood or not being able to say what one wants to say, which could be reflected in negative general self-concept.

The number of years a student in the sample spent in learning assistance or self-contained special education classes did not relate to general self-concept or academic self-concept. Time spent in a learning assistance centre did not affect internal locus of control. The number of years a child spent in self-contained special education classes did relate inversely to internal academic locus of control.

The less time a child spends in a self-contained special education classroom the more likely he will have an internal academic locus of control. The more time a child spends in a special education classroom the more likely he will have an external locus of control. No previous research examined this relationship, therefore more research should be conducted to investigate the effect the number of years in a self-contained special education class has on internal academic locus of control.

Grades repeated did not relate to any facet of self-concept, but there was an inverse relationship between grades repeated and internal academic locus of control. There was a tendency for the sample to have an internal locus of control if they had failed only one grade. Failing two grades or more did not necessarily mean an external locus of control but there was a tendency in that direction.

LIMITATIONS OF THE STUDY

A limitation of much of the research in learning disabilities is the process by which children are labelled learning disabled. This study was in some respects subject to that limitation. Occasionally children are placed in a class for learning disabled children because they may need a more structured class setting or more individual assistance, for reasons other than a learning disability, and there may be a "spot" in the class. The charge that a learning disability has become an umbrella term for a large number of learning and behavior problems is often true. Although the school district where the research was carried out adheres to a stricter criteria for designation, the results of the study are not generalizable to districts where different criteria are used.

There are students within the sample who have a discrepancy between potential and performance, but their areas of strength and weakness are vastly different. Some students are verbally proficient, but have difficulty writing; other students have difficulty with verbal expression, but are able to communicate more effectively when they write. At first it appeared that members of the group had much in common because they had met the same criteria for entrance into the particular program, but it is possible that they could have had less in common than was expected. The measures used in the study were paper and pencil tasks which may not be the best indicator of the self-perceptions of learning disabled students.

RECOMMENDATIONS FOR FURTHER RESEARCH

An ethnographic study of this sample where intensive interview data would be collected from the students and observations of interactions within their special class placement made would enhance the data collected.

To validly assess the impact of special education placement on the self-concept and locus of control of students with learning disabilities a longitudinal study needs to be conducted. The snapshot approach of this study reveals areas where further research should be undertaken.

Missing from the diverse literature in the field are the ideas, opinions, and perceptions regarding self-concept and locus of control of individuals with learning disabilities. Frequently professionals rely on test results and questionnaire responses to describe the cognitive and affective characteristics of students with learning disabilities. More valid information could be garnered by listening to people who have, out of necessity, come to cope with their learning disability.

Further research needs to include more information garnered directly from learning disabled students. Their explanations for their self-perceptions are necessary to advance the knowledge and understanding the influence learning disabilities have on an individual. The value of social comparison theory in understanding the influence special education placement has on children should be explored directly by asking students about their experiences and related feelings towards their special education placement. The influence self-perceptions in non-academic areas has in a person's evaluation of their self-worth may suggest ways that students compensate for less than successful academic experiences.

The degree to which students identify with and relate to school and the things school has to offer, mirror the value they place in their educational experience. A study of students with learning disabilities and their attitudes towards the school, in both academic and non-academic areas, may broaden our understanding of the population.

Research that examines other variables related to school history may be more significant. For example, questions relating to age appropriate grade placement, rather than just age at placement; changing schools often and in the middle of the academic school year; teaching strategies; and teacher temperament may be more highly correlated with the academic self-concept, general self-concept and locus of control of learning disabled intermediate and secondary level students.

No apparent difference between the intermediate grade level and secondary grade level students in academic self-concept, general self-concept and locus of control indicates that the feeling related to having a learning disability may be common across age groups. A comparison between the elementary school children,

soon after they are classified as learning disabled, and high school subjects on a number of affective variables may provide information that is beneficial for programming at both levels. A longitudinal study where students' self-concept and locus of control are measured on entry into a program, during various stages and when they exit the program would provide more comprehensive information on affective development of learning disabled students than the present study has been able to do. Richest data would be gathered from a longitudinal study, which controls for home environment and IQ, and examines the self-concept and locus of control of a students enrolled in a variety of service delivery programs. Results from a study of that nature would provide us with information that would assist educators in providing programsS that are most appropriate for the diverse population now classified as learning disabled.

Other influences that may contribute to learning disabled students' affective characteristics that need investigating are: the structure of the programs; the curriculum emphasis; the size of the school and classes; student involvement in extra-curricular programs; and students' goals and aspirations. Research in those areas may provide information that extends our knowledge about the salient characteristics of older students with learning disabilities. Programming for younger children should be devised with an eye to the future; educators must be aware of the problems older students have encountered. It may be informative to compare students who are just beginning their intermediate program with students who are leaving that program to determine if affective characteristics differ as a function of the particular stage of the program. Even more informative would be a study that compared students entering the program with students preparing to exit the program.

One of the students involved in the study wrote the following as part of a personal essay on why he or she wanted to get a "good edjacasion".

"I want to learn four to get better in art and wrighting and lurning to get more into studeing because I have a hard time to thring (think) to put my mind to work and study ...this paper I'am doing is very hard to do because some ove the reaksons it might have on aney wone wo reads this sow read it cafelly and don't get the rong ideay because I think alot diffrent and I mean alot deffrently."

The last few lines reinforce the idea that pen and paper exercises, like tests, scales that measure affective characteristics and written assignments, do not divulge the true feeling and ideas students with learning disabilities have about their personal situations.

CONCLUSIONS

In developing programs for students with learning disabilities educators should consider numerous cognitive characteristics of what appears to be a heterogeneous group of students. The assumption that students with learning disabilities are any more homogeneous in relation to affective characteristics is erroneous. The belief that negative self-concept and external locus of control are concomitant with learning disabilities is not supported by the findings of this study. Negative academic self-concept (74.4%) appeared to be a characteristic of this sample but as a group they had a positive general self-concept (65%). More subjects had an internal academic locus of control (79%) than an external academic locus of control (21%). The tendency in this sample, although not significant, was towards negative academic self-concept and internal locus of control.

Findings of this study indicate that learning disabled students exhibit a combination of affective characteristics. Research in cognitive areas indicates that learning disabled students exhibit a variety of learning difficulties, subsequently a variety of teaching strategies are required within a special education program. Educators of learning disabled students must be aware of the differences in affective characteristics within the population. The assumption that all learning disabled students have the same characteristics and will respond to one particular program aimed at "altering" assumed negative affective characteristics is too simplistic.

Learning disabled students in this sample tended to have negative academic self-concepts as indicated by their scores on the academic, mathematics and verbal self-concept subscales. Their general self-concept scores were generally positive. Attempts to improve self-concept might be more efficacious when teachers concentrate on the school related aspects of self-concept: mathematics self-concept and verbal self-concept, rather than on general self-concept, which is made up of more facets than just school related aspects.

Neither the number of years spent in a learning assistance centre nor the age when a child was first placed in a learning assistance centre had an influence on self-concept or locus of control. The age of a child placed in a self-contained special education classroom did not relate to self-concept or locus of control. No relationship was found between the number of years spent in a self-contained special education class and self-concept. An inverse relationship was found between the number of years a child spent in self-contained special education classes and internal academic locus of control. The less time a child spends in a self-contained special education classroom the more likely he will

have an internal locus of control.

One of the major goals of education is to foster independence. School districts should be aware of the influence being in a segregated class has on a child's academic locus of control when they are deciding on the most appropriate programming for learning disabled students.

No apparent difference was found between intermediate grade level and secondary grade level students in academic self-concept, general self-concept or academic locus of control. Self perceptions about ability and the amount of control one exercises in one's life appear to be constant across intermediate and secondary grade levels for students with learning disabilities.

Repeating grades did not have a significant influence on self-concept and locus of control. No further interpretation of these results was performed.

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APPENDIX A:
SELF DESCRIPTION QUESTIONNAIRE III

SELF DESCRIPTION QUESTIONNAIRE III

STUDENT IDENTIFICATION NUMBER _____

This questionnaire is made up of a number of statements about the way people feel about themselves. Each represents a commonly held opinion and there are no right and wrong answers.

Please read each statement carefully and circle the number of the response which is closest to how true or how false the statement is for you personally.

definitely false		mostly false		mostly true		definitely true
1	2	3	4	5	6	7
						8

SAMPLE

a. *I like summer holidays.*

1	2	3	4	5	6	7	<u>8</u>
---	---	---	---	---	---	---	----------

1. I find many mathematical problems interesting and challenging.

1	2	3	4	5	6	7	8
---	---	---	---	---	---	---	---

2. Overall, I have a lot of respect for myself.

1	2	3	4	5	6	7	8
---	---	---	---	---	---	---	---

3. I often tell small lies to avoid embarrassing situations.

1	2	3	4	5	6	7	8
---	---	---	---	---	---	---	---

4. I get a lot of attention from members of the opposite sex.

1 2 3 4 5 6 7 8

5. I have trouble expressing myself when trying to write something.

1 2 3 4 5 6 7 8

6. I am usually pretty calm and relaxed.

1 2 3 4 5 6 7 8

7. I hardly ever saw things the same way as my parents when I was growing up.

1 2 3 4 5 6 7 8

8. I enjoy doing work for most academic subjects.

1 2 3 4 5 6 7 8

9. I am never able to think up answers to problems that haven't already been figured out.

1 2 3 4 5 6 7 8

10. I have a physically attractive body.

1 2 3 4 5 6 7 8

11. I have few friends of the same sex that I can really count on.

1 2 3 4 5 6 7 8

12. I am a good athlete.

1 2 3 4 5 6 7 8

13. I have hesitated to take courses that involve mathematics.

1 2 3 4 5 6 7 8

14. Overall, I lack self-confidence.

1 2 3 4 5 6 7 8

15. People can rely on me.

1 2 3 4 5 6 7 8

16. I find it difficult to meet members of the opposite sex whom I like.

1 2 3 4 5 6 7 8

17. I can write effectively.

1 2 3 4 5 6 7 8

18. I worry a lot.

1 2 3 4 5 6 7 8

19. I would like to bring up children of my own (if I have any) like my
parents raised me.

1 2 3 4 5 6 7 8

20. I hate studying for many academic subjects.

1 2 3 4 5 6 7 8

21. I am good at combining ideas in ways that others have not tried.

1 2 3 4 5 6 7 8

22. I am ugly.

1 2 3 4 5 6 7 8

23. I am comfortable talking to members of the same sex.

1 2 3 4 5 6 7 8

24. I am awkward and poorly coordinated at most sports and physical activities.

1 2 3 4 5 6 7 8

25. I have generally done better in mathematics courses than other courses.

1 2 3 4 5 6 7 8

26. Overall, I am pretty accepting of myself.

1 2 3 4 5 6 7 8

27. Being honest is not particularly important to me.

1 2 3 4 5 6 7 8

28. I have lots of friends of the opposite sex.

1 2 3 4 5 6 7 8

29. Relative to most people, my verbal skills are quite good.

1 2 3 4 5 6 7 8

30. I am happy most of the time.

1 2 3 4 5 6 7 8

31. I still have many unresolved conflicts with my parents.

1 2 3 4 5 6 7 8

32. I like most academic subjects.

1 2 3 4 5 6 7 8

33. I wish I had more imagination and originality.

1 2 3 4 5 6 7 8

34. I have a good body build.

1 2 3 4 5 6 7 8

35. I don't get along very well with other members of the same sex.

1 2 3 4 5 6 7 8

36. I hate sports and physical activities.

1 2 3 4 5 6 7 8

37. I have trouble understanding anything that is based upon mathematics.

1 2 3 4 5 6 7 8

38. Overall, I don't have much respect for myself.

1 2 3 4 5 6 7 8

39. I nearly always tell the truth.

1 2 3 4 5 6 7 8

40. Most of my friends are more comfortable with members of the opposite sex than I am.

1 2 3 4 5 6 7 8

41. I often have to read things several times before I understand them.

1 2 3 4 5 6 7 8

42. I am anxious much of the time.

1 2 3 4 5 6 7 8

43. My parents have usually been unhappy or disappointed with what I do and have done.

1 2 3 4 5 6 7 8

44. I have trouble with most academic subjects.

1 2 3 4 5 6 7 8

45. I enjoy working out new ways of solving problems.

1 2 3 4 5 6 7 8

46. There are lots of things about the way I look that I would like to change.

1 2 3 4 5 6 7 8

47. I make friends easily with members of the same sex.

1 2 3 4 5 6 7 8

48. I have a high energy level in sports and physical activities.

1 2 3 4 5 6 7 8

49. I am quite good at mathematics.

1 2 3 4 5 6 7 8

50. Overall, I have a lot of self-confidence.

1 2 3 4 5 6 7 8

51. I sometimes take things that do not belong to me.

1 2 3 4 5 6 7 8

52. I am comfortable talking to members of the opposite sex.

1 2 3 4 5 6 7 8

53. I am good at expressing myself.

1 2 3 4 5 6 7 8

54. I hardly ever feel depressed.

1 2 3 4 5 6 7 8

55. My values are similar to those of my parents.

1 2 3 4 5 6 7 8

56. I'm good at most academic subjects.

1 2 3 4 5 6 7 8

57. I'm not much good at problem solving.

1 2 3 4 5 6 7 8

58. My body weight is about right (neither too fat nor too skinny).

1 2 3 4 5 6 7 8

59. Other members of the same sex find me boring.

1 2 3 4 5 6 7 8

60. I am poor at most sports and physical activities.

1 2 3 4 5 6 7 8

61. I have always done well in mathematics class.

1 2 3 4 5 6 7 8

62. Overall, nothing that I do is very important.

1 2 3 4 5 6 7 8

63. I never cheat.

1 2 3 4 5 6 7 8

64. I'm quite shy with members of the opposite sex.

1 2 3 4 5 6 7 8

65. In school I had more trouble learning to read than most other students.

1 2 3 4 5 6 7 8

66. I tend to be high-strung, tense, and restless.

1 2 3 4 5 6 7 8

67. I like my parents.

1 2 3 4 5 6 7 8

68. I'm not particularly interested in most academic subjects.

1 2 3 4 5 6 7 8

69. I am an imaginative person.

1 2 3 4 5 6 7 8

70. I dislike the way I look.

1 2 3 4 5 6 7 8

71. I share lots of activities with members of the same sex.

1 2 3 4 5 6 7 8

72. I enjoy sports and physical activities.

1 2 3 4 5 6 7 8

73. Overall, I have pretty negative feelings about myself.

1 2 3 4 5 6 7 8

74. I am a very honest person.

1 2 3 4 5 6 7 8

75. I would feel OK about cheating on a test as long as I did not get caught.

1 2 3 4 5 6 7 8

76. Overall, I have pretty positive feelings about myself.

1 2 3 4 5 6 7 8

APPENDIX B:
INTELLECTUAL ACHIEVEMENT RESPONSIBILITY QUESTIONNAIRE

INTELLECTUAL ACHIEVEMENT RESPONSIBILITY QUESTIONNAIRE

STUDENT IDENTIFICATION NUMBER _____

This questionnaire describes a number of common experiences most of you have in your daily lives. These statements are presented one at a time, and following each are two possible answers. Read the description of the experience carefully, and then look at the two answers. Choose the one that most often describes what happens to you. Put a circle around the "a" or "b" in front of that answer. Be sure to answer each question according to how you really feel.

If, at any time, you are uncertain about the meaning of a question, raise your hand and I will explain it to you.

SAMPLE

A. Which do you like best

a. *yogurt, or*

b. chocolate cake?

1. If a teacher passes you to the next grade, would it probably be
 - a. because she liked you, or
 - b. because of the work you did?
2. When you do well on a test at school, is it more likely to be
 - a. because you studied for it, or
 - b. because the test was especially easy?
3. When you have trouble understanding something in school, is it usually
 - a. because the teacher didn't explain it clearly, or
 - b. because you didn't listen carefully?

4. When you read a story and can't remember much of it, is it usually
 - a. because the story wasn't well written, or
 - b. because you weren't interested in the story?
5. Suppose your parents say you are doing well in school. Is this likely to happen
 - a. because your school work is good, or
 - b. because they are in a good mood?
6. Suppose you did better than usual in a subject at school. Is this likely to happen
 - a. because you tried harder, or
 - b. because someone helped you
7. When you lose at a game of cards or checkers, does it usually happen
 - a. because the other player is good at the game, or
 - b. because you don't play well?
8. Suppose a person doesn't think you are very bright or clever.
 - a. can you make him change his mind if you try to, or
 - b. are there some people who will think you're not very bright no matter what you do?
9. If you solve a puzzle quickly, is it
 - a. because it wasn't a very hard puzzle, or
 - b. because you worked on it carefully?

10. If a boy or girl tells you that you are dumb, is it more likely that they say that
 - a. because they are mad at you, or
 - b. because what you did really wasn't very bright?
11. Suppose you study to become a teacher, scientist, or doctor and you fail. Do you think this would happen
 - a. because you didn't work hard enough, or
 - b. because you needed some help, and other people didn't give it to you?
12. When you learn something quickly in school, is it usually
 - a. because you paid close attention, or
 - b. because the teacher explained it clearly?
13. If a teacher says to you, "Your work is fine," is it
 - a. something teachers usually say to encourage pupils, or
 - b. because you did a good job?
14. When you find it hard to work arithmetic or math problems at school, is it
 - a. because you didn't study well enough before you tried them, or
 - b. because the teacher gave problems that were too hard?
15. When you forget something you heard in class, is it
 - a. because the teacher didn't explain it very well, or
 - b. because you didn't try very hard to remember?

16. Suppose you weren't sure about the answer to a question your teacher asked you, but your answer turned out to be right. Is it likely to happen
 - a. because she wasn't as particular as usual, or
 - b. because you gave the best answer you could think of?
17. When you read a story and remember most of it, is it usually
 - a. because you were interested in the story, or
 - b. because the story was well written?
18. If your parents tell you you're acting silly and not thinking clearly, it is more likely to be
 - a. because of something you did, or
 - b. because they happen to feel cranky?
19. When you don't do well on a test at school, is it
 - a. because the test was especially hard, or
 - b. because you didn't study for it?
20. When you win at a game of cards or checkers, does it happen
 - a. because you play real well, or
 - b. because the other person doesn't play well?
21. If people think you're bright or clever, is it
 - a. because they happen to like you, or
 - b. because you usually act that way?

22. If a teacher didn't pass you to the next grade, would it probably be
- a. because she "had it in for you," or
 - b. because your school work wasn't good enough?
23. Suppose you don't do as well as usual in a subject at school. Would this probably happen
- a. because you weren't as careful as usual, or
 - b. because somebody bothered you and kept you from working?
24. If a boy or girl tells you that you are bright, is it usually
- a. because you thought up a good idea, or
 - b. because they like you?
25. Suppose you became a famous teacher, scientist, or doctor. Do you think this would happen
- a. because other people helped you when you needed it, or
 - b. because you worked very hard?
26. Suppose your parents say your aren't doing well in your school work. Is this likely to happen more
- a. because your work isn't very good, or
 - b. because they are feeling cranky?
27. Suppose you are showing a friend how to play a game and he has trouble with it. Would that happen
- a. because he wasn't able to understand how to play, or
 - b. because you couldn't explain it well?

28. When you find it easy to work arithmetic or math problems at school, is it usually,
- a. because the teacher gave you especially easy problems, or
 - b. because you studied your book well before you tried them?
29. When you remember something you heard in class, is it usually
- a. because you tried hard to remember, or
 - b. because the teacher explained it well?
30. If you can't work a puzzle, is it more likely to happen
- a. because you are not especially good at working puzzles, or
 - b. because the instructions weren't written clearly enough?
31. If your parents tell you that you are bright or clever, is it more likely
- a. because they are feeling good, or
 - b. because of something you did?
32. Suppose you are explaining how to play a game to a friend and he learns quickly. Would that happen more often
- a. because you explained it well, or
 - b. because he was able to understand it?
33. Suppose you're not sure about the answer to a question your teacher asks you and the answer you give turns out to be wrong. Is it likely to happen
- a. because she was more particular than usual, or
 - b. because you answered too quickly?

34. If a teacher says to you, "Try to do better," would it be
- a. because this is something she might say to get pupils to try harder,
or .
 - b. because your work wasn't as good as usual?

APPENDIX C:
PERSONAL STUDENT RECORD INFORMATION

**CHARACTERISTICS OF STUDENTS IN SPECIAL CLASS PLACEMENTS
FOR SPECIFIC LEARNING DISABILITIES**

PERSONAL STUDENT RECORD INFORMATION

Student Identification Number _____

School _____

A. Sex: male female

B. Age _____

Birthdate

year _____ month _____ day _____

C. WISC-R Scores

Verbal _____ Performance _____

Full Scale _____

D. Placement

1. Present placement _____

Amount of time in special class

Amount of time in regular class

Regular class/es participated in

Curriculum covered in special class

2. Grade at first referral. _____

3. Age at first referral. _____

4. Age at first placement in special ed. _____

5. Grade at first placement in special ed. _____

4. Number of years, grades and kind of previous programming:

PROGRAMMING	# OF YEARS/MONTHS	GRADES
-------------	-------------------	--------

Regular Ed.

LAC

DTC

Special class

Other _____

E. Achievement

Reading Achievement Scores

Math Achievement Scores

Report Card Grade Averages

F. Grades Repeated / Classes Repeated

G. Medical Information

vision

hearing

medication

H. Other Support Services

I. Referrals to Other Agencies

J. Attendance / Absenteeism

Number of School Days Absent/ Number of School Days (%)

Grade 1 _____ Grade 2 _____

Grade 3 _____ Grade 4 _____

Grade 5 _____ Grade 6 _____

Grade 7 _____ Grade 8 _____

Grade 9 _____ Grade 10 _____

Grade 11 _____ Grade 12 _____

K. Parental Occupations

Father

Mother

Comments: