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The Influence of Adaptive Behavior, Verbal/Performance IQ Discrepancy, IQ, and Socioeconomic Status on the Decision of Special Educators in a Mid-Western City to Label a Student Learning Disabled or Educable Mentally Impaired

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THE INFLUENCE OF ADAPTIVE BEHAVIOR, VERBAL/PERFORMANCE IQ DISCREPANCY, IQ, AND SOCIOECONOMIC STATUS ON THE DECISION OF SPECIAL EDUCATORS IN A MID-WESTERN CITY TO LABEL A STUDENT LEARNING DISABLED OR EDUCABLE MENTALLY IMPAIRED

By

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ABSTRACT

THE INFLUENCE OF ADAPTIVE BEHAVIOR, VERBAL/PERFORMANCE IQ DISCREPANCY, IQ, AND SOCIOECONOMIC STATUS ON THE DECISION OF SPECIAL EDUCATORS IN A MID-WESTERN CITY TO LABEL A STUDENT LEARNING DISABLED OR EDUCABLE MENTALLY IMPAIRED

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The problem of labeling students for special education is of major interest in the field. The overrepresentation of minority students who are of low socioeconomic status has been of continuing concern especially for Educable Mentally Impaired (EMI) students. The lack of clarity and agreement on definition has been of equal concern for Learning Disabled (LD) students. This study assessed the influence of adaptive behavior, verbal/performance IQ discrepancy, IQ, and socioeconomic status (SES) on the professional's decision to label a student LD or EMI. Additionally, staff members were asked to indicate their number of years teaching, role, educational level, professional development activities, and number of decisions in which they have been involved to determine if, and how, these characteristics influenced their decisions.

Two levels, high and low, of each of the four variables were combined in all possible ways to result in sixteen case descriptions that were presented to the 248 members of the

Lansing School District Special Education professional staff in a questionnaire. Each person was asked to make two decisions about each case description: (1) On a continuum of 0 to 10, what is the likelihood that this student is Learning Disabled? (2) On a continuum of 0 to 10, what is the likelihood that this student is Educable Mentally Impaired?

Results of these data were analyzed by multivariate analysis of variance--repeated measures design--in an effort to ascertain the relationships between the four independent variables and the demographic characteristics of the staff on the labeling decisions. Major findings were:

1. There were no differences in the tendency to be influenced by SES based on the demographic characteristics of the staff.
2. High SES did not result in a tendency to label the student LD, nor did low SES result in a tendency to label the student EMI when considered in relation to demographic characteristics.
3. Of the four variables investigated, the LD decision was most influenced by high verbal performance IQ discrepancy and high (near normal) IQ.
4. Of the four variables investigated, the EMI decision was most influenced by low adaptive behavior and low IQ.
5. There was a tendency for high SES to result in the EMI label when variables were considered independently.

DEDICATION

To Larry whose loving support
and encouragement made it
possible.

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Three other people were particularly important in bringing this dissertation to completion. Dr. David Solomon provided statistical expertise which was invaluable; Dr. Joe Byers inspired the original idea; and Dr. Charles Mange, now retired, assisted me greatly in the early stages.

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CHAPTER I

INTRODUCTION

Statement of Problem

In recent years there has been a great deal of interest and controversy among professionals in special education about the question of labeling students for special education. It is generally accepted in Michigan, and indeed nationwide, that labeling students is inevitable because funding is tied to labeling. Local districts are reimbursed with both state and federal funds based on the number of students in each category of disability.

Once the fact of labeling is accepted, which label to choose is the next question. With the mild to moderate handicaps, the choice is rarely clear-cut. Potter (1982) stated the case succinctly:

> If a child is not physically handicapped but appears to be in need of special education services, he/she is classified into one of three categories--mental retardation, learning disabilities, or emotional disturbance. Unfortunately, these categories do not have clear universally accepted, mutually exclusive definitions, thus misclassifications can easily occur. (p. 7)

For several reasons the choice between the Learning Disabled (LD) and Educable Mentally Impaired (EMI) labels is of particular interest. First, these two categories deal primarily with intellectual functioning. Second, in the

past few years there has been a great increase in numbers of LD students combined with a large decrease in numbers of EMI students (Tucker, 1980). Third, these two categories are concerned mainly with that grey area of slow learners who often don't appear to fit into any category in special education.

Even though the choice between labels is often ambiguous, the procedure by which a student is labeled is well-defined. In Michigan, the initial labeling decision is made by a committee, the Individualized Educational Planning Committee (IEPC), composed of (1) a representative of the public agency, (2) the student's teacher or a teacher appropriate for the student if the child is not enrolled in special education, (3) a member of the Multidisciplinary Evaluation Team, and (4) the parents (Michigan Special Education Rules R 340.1721-b). The Multidisciplinary Evaluation Team (MET) often includes a psychologist and a social worker. In addition, professionals such as a speech therapist, a teacher consultant, an occupational therapist, a physical therapist, an audiologist, and others may also provide information.

The IEPC has several duties. First, it determines eligibility, and second, it plans the student's program. To determine whether or not the student is Learning Disabled, the IEPC is expected to base its decision on the report of a diagnostician who may be either a psychologist, a speech and language teacher, or a teacher consultant, and the child's

teacher (R 340.1713). In practice, a psychologist is usually included. To determine whether or not a student is Educable Mentally Impaired, a psychologist and at least one other person must assess the student (R 340.1705).

There are a great many safeguards in Michigan's Special Education Rules and in federal law P.L. 94-142 about how the evaluation must be done. There must be a full and individual evaluation by a multidisciplinary team and assurance that testing does not discriminate on the basis of language or culture. To quote the rule:

> Information presented to the individualized educational planning committee shall be drawn from a variety of sources, including parent input, aptitude and achievement tests, teacher recommendations, physical condition, social or cultural background, adaptive behavior, and other pertinent information. No single procedure shall be used as the sole criterion for determining an appropriate educational program for a person.
> (R 340.1721a(2) in part)

Purpose

A number of factors influence the decision about which label to choose for a particular student. This study examined four of those factors. <u>The purpose of this study was to investigate the influence of the student's adaptive behavior, verbal/performance IQ discrepancy, full scale IQ, and socioeconomic status (SES) on the professional's decision in the Lansing School District about whether to label an individual student Learning Disabled (LD) or Educable Mentally Impaired (EMI)</u>.

Three of the four factors were chosen for investigation because they are related to eligibility criteria for qualifying a student for special education as specified in the Michigan rules. Adaptive behavior and IQ were selected because they are cited in the rules. Severe discrepancy, for which verbal/performance IQ discrepancy was used as an indicator in this study, is also cited in the rules.

To qualify as Learning Disabled a student must show:

> (1) a disorder in one or more of the basic psychological process involved in understanding language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations . . . (2) The IEPC may determine that a child has a specific learning disability if the child does not achieve commensurate with his or her age and ability levels in one or more areas listed in the subrule . . . and if the MET team finds that a child has a severe discrepancy between achievement and intellectual ability . . . (R340.1713).

In Lansing this rule has been interpreted to mean that the student must have a near normal, or at least not subnormal, IQ. An IQ above 70 is the accepted standard. In addition, the student must show a discrepancy between achievement and intellectual ability that in Lansing is indicated by grade level. The standards are: a one year discrepancy for grades kindergarten and first, a one and one half year discrepancy for grades two and three, a two year discrepancy for grades four to six, three years for grades seven to nine, and four years for grades ten to twelve. Estimated learning potential, or intellectual ability, is determined by a psychological evaluation done by a psychologist;

achievement is determined by a combination of classroom performance and individual achievement tests administered by a teacher consultant. If the discrepancy between the estimated learning potential and achievement meets the grade level criteria already described, then the student qualifies as Learning Disabled in Lansing (Team Operations, 1982).

To be classified as Educable Mentally Impaired a student must manifest:

> (a) development at a rate approximately 2 to 3 standard deviations below the mean as determined through intellectual assessment,
> (b) score approximately within the lowest 6 percentiles on a standardized test in reading and arithmetic,
> (c) lack of development primarily in the cognitive domain, and
> (d) impairment of adaptive behavior (R340.1705).

In Lansing, this rule has been interpreted to mean an IQ below 70 as assessed by a psychologist on a standardized intelligence test and impaired adaptive behavior as assessed either by a social worker on an adaptive behavior scale or by teacher report.

In this study these three factors were treated as if they point definitely to one category or the other. An IQ above 70 indicated the LD label but not the EMI label; an IQ below 70 indicated the EMI label but not the LD label; severe discrepancy (to be discussed in detail later) indicated the LD label but not the EMI label; and impaired adaptive behavior indicated the EMI label but not the LD label.

The fourth factor, socioeconomic status, was chosen because it does not point to either label. It has generally been accepted, and will be fully considered later, that low SES and the EMI category go hand in hand while the LD category is more often associated with higher SES. Therefore the influence of SES on the labeling decision was of great concern in this study especially in light of the fact that the Michigan Rules specifically prohibit a determination of disability based only on socioeconomic factors. A determination that a child is Educable Mentally Impaired, "shall not be based solely on behaviors relating to environmental, cultural, or economic differences" (R 340.1705(3)). Similarly, a child shall not be identified as Learning Disabled "if the severe discrepancy between ability and achievement is primarily the result of . . . environmental, cultural, or economic disadvantage" (R 340.1713(3)(e)).

While looking at the relationships between the four variables already mentioned, certain characteristics of the decision-makers including number of years of teaching, role, educational level, professional development activities, and number of decisions in which the professional has been involved were investigated also. How do adaptive behavior, verbal/performance IQ discrepancy, full scale IQ, and SES relate to the demographic characteristics of Lansing team members to result in an individual decision about whether to label a particular child Learning Disabled or Educable Mentally Impaired?

Need

The need to clarify the differences between the high incidence categories of impairment (i.e., LD and EMI) is evident in the literature. Even though some authors (Gajar, 1979, 1980; Epstein, 1983; Gaar, 1983) consider the differences definitive, others (Neisworth, 1975; Eno, 1980; Potter, 1982) believe the lines of distinction are blurred. It has been shown, historically at least, that EMI students are primarily of low SES. The literature is replete with evidence that minority and low socioeconomic status students are overrepresented in EMI special education programs (Hurley, 1969; Katz, 1970; Heller, 1982; Mercer, 1973; Franks, 1971; M.L. Smith, 1982; Kaufman, 1981; MacMillan, 1982; Ysseldyke, 1983; Adelman, 1982; Sarason, 1979; Neer, 1973; Reynolds, 1982). It has also been shown by a great deal of evidence that the LD category of special education is not clearly defined (Ysseldyke, Algozzine & Epps, 1983; Ysseldyke & Algozzine, 1980; Ysseldyke, Algozzine, Shinn & McGue, 1982; Argulewicz, 1983; Rist, 1982; Banas, 1984; Epps, Ysseldyke & Algozzine, 1983; Epps, Ysseldyke & McGue, 1984; Shepard, 1983).

David Greenburg (1984) further emphasized the need for research on classification when he discussed the evaluation section of the 1984 6th Annual Department of Education's report to Congress on P.L. 94-142:

> The report section on protection in evaluation focuses on eligibility criteria and standards for placement decisions. That focus may be interpreted to reflect a de-emphasis of concerns

> regarding non-discriminatory and/or multi-disciplinary evaluation accompanied by a re-emphasis on concerns regarding inappropriate over-identification of children as Learning Disabled. (p. 205)

Gerber (1984) also discussed the 1984 6th Annual Report to Congress. He pointed out that students identified as LD comprise the largest categorical group currently receiving special education services in the nation. They accounted for 39 percent of all students served in 1981-82 and for 41 percent in 1982-83. Gerber quoted a report by the National Association of Directors of Special Education which gave reasons for the great increase in students classified as LD. In the directors' opinion, the increase is due to:

1. Improvements in identification and assessment procedures.
2. Liberal eligibility standards applied by local districts.
3. Diminishing instructional options other than special education for students with learning problems.
4. Greater social acceptance and preference for the classification learning disabled, as opposed to the classification mentally retarded.
5. Judicial interference with identification procedures for students thought to be mentally retarded. (p. 212)

Gerber (1984) illustrated his point with several charts, see Figures 1 and 2, showing the seven year trend for students identified LD, EMI, and emotionally disturbed (ED). In his comments about the charts, he asserted:

> Clearly not only the numbers but also the percentages of students identified as Learning Disabled have risen dramatically since 1976 while percentages of students identified as mentally retarded and emotionally disturbed have changed only slightly. (p. 216)

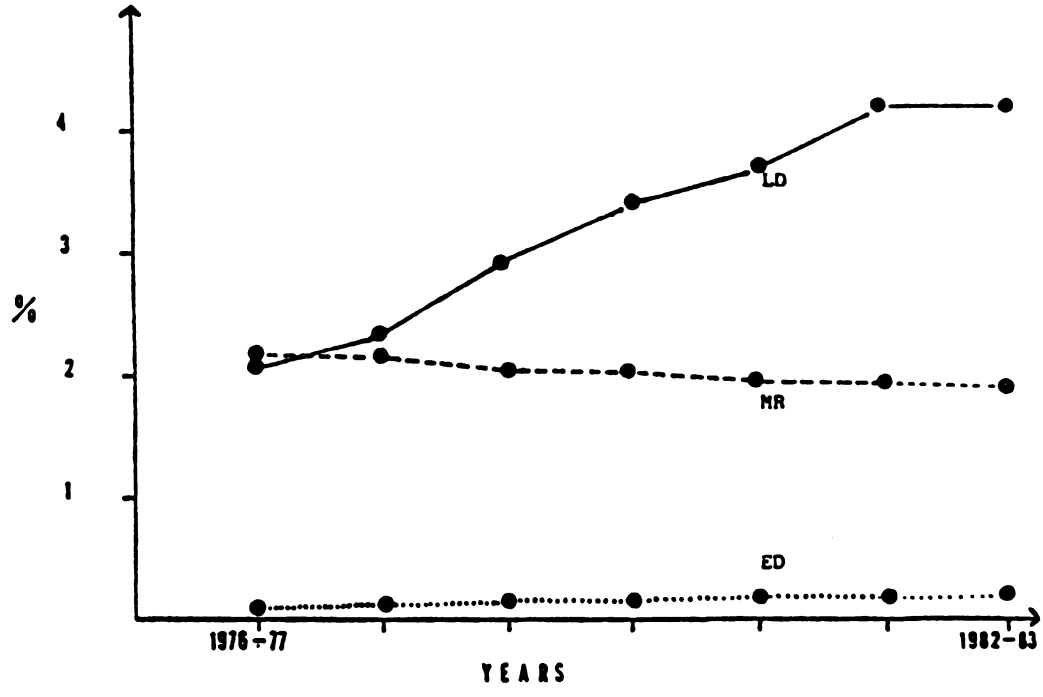


Figure 1. LD, MR, and ED Service Rates, 1976-77 to 1982-83. (Source: Exceptional Children, Nov. 1984, Vol. 51, No. 3.)

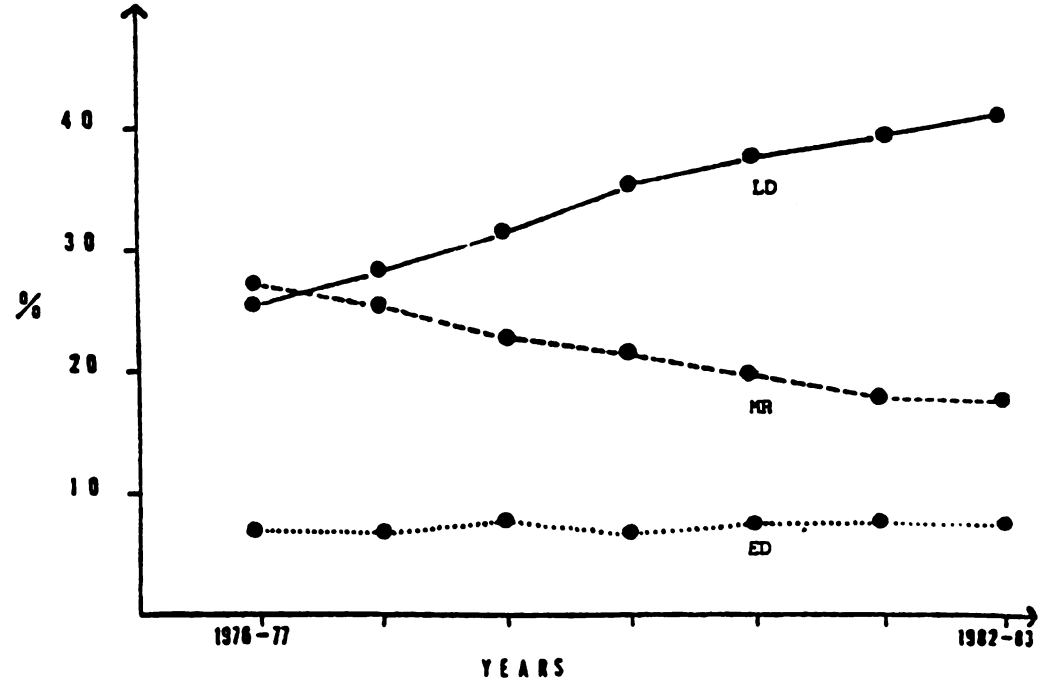


Figure 2. LD, MR, and ED as Percentage of All Handicapped, 1976-77 to 1982-83. (Source: Exceptional Children, Nov. 1984, Vol. 51, No. 3.)

The statistics for Michigan are much the same as presented in Trends in Special Education (1983). The three charts in Trends depicting percentages of aggregate students in the categories of EMI, EI, and LD all used different scales (EMI used increments of .05; EI used increments of .10; and LD used increments of .20). If the three Michigan charts are superimposed using the same scale (.10), the rise of LD students appears dramatically as displayed in Figure 3.

James Tucker (1980) traced the percentages of students classified LD and EMI from 1970 to 1977. He found that the percentage of blacks in EMI classes did decline but the increase in the total number of LD classes has been so great that blacks are still overrepresented in special education as a whole. In fact, as shown in Figure 4, Tucker contended that the overrepresentation of blacks in the EMI category had actually shifted to overrepresentation in the LD category.

In addition to controversy over the fact of labeling itself, there is an increasing amount of research on both the decision-making process and the team approach in decision-making (Kehle, 1980; Boucher, 1981; Yoshida, 1978; Ysseldyke & Regan, 1978; Ysseldyke, Algozzine & Thurlow, 1980; Ysseldyke & Thurlow, 1983; Harber, 1981a, 1981b; Knoff, 1984; Smith, 1981; Holland, 1980; Salvia, 1980). Results are contradictory. However, it is generally accepted that the factors that influence the decision-makers have

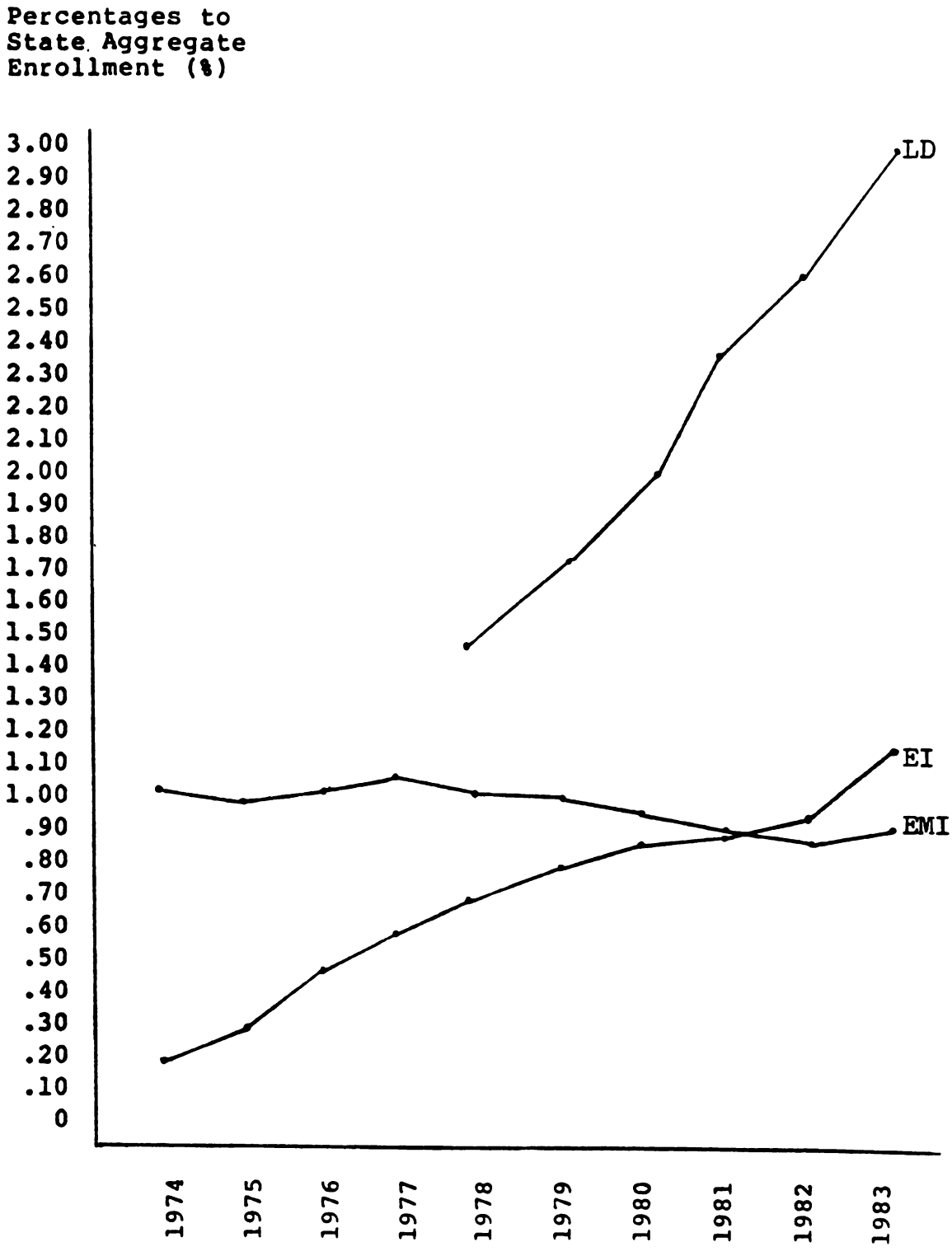


Figure 3. Composite Incidence Rates for LD, EI, EMI Students. (Source: Michigan Trends in Special Education, Oct. 1983.)

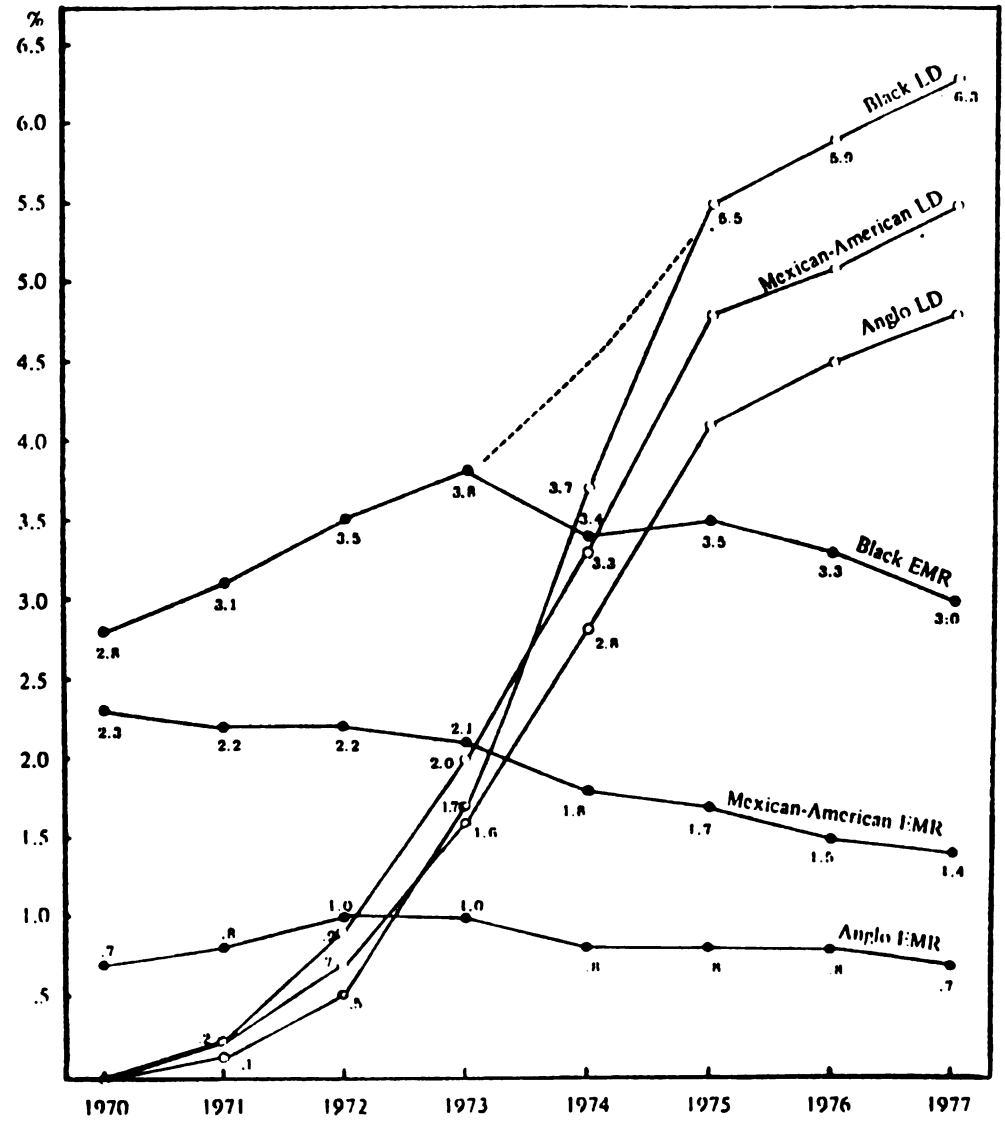


Figure 4. Percentage of Each Racial and Ethnic Group Accounted for by Students Classified as LD and EMR 1970-77. (Source: The Journal of Special Education, Vol. 14, No. 1, 1980.)

not been clearly delineated.

Even though the legal process by which a child is labeled for special education is explicitly stated in the rules, in practice a great many problems develop during the decision-making process. In addition to professional knowledge, each team member brings to the process a background and history of beliefs, attitudes, and values that help shape his/her decision. This study is aimed at investigating professionals' opinions about the factors that influence them in their labeling decisions. It is not concerned with whether or not students are fairly or accurately labeled. Rather, it is concerned with the opinions and beliefs of the decision-makers before they attend IEPCs.

Statement of Hypotheses

The hypotheses to be tested in this study stated in directional terms are:

1. Among professionals, there will be no significant differences in the tendency to be influenced by SES based on years of experience, role, educational level, professional development activities, or number of decisions in which they have been involved.
2. With mild to moderately handicapped Learning Disabled (LD) and Educable Mentally Impaired (EMI) students, the lower socioeconomic status (SES) students will tend to be labeled EMI by professionals regardless of years of experience, role, educational level, professional

development activities, or number of decisions in which they have been involved.

3. With mild to moderately handicapped LD and EMI students, the higher SES students will tend to be labeled LD by professionals regardless of years of experience, role, educational level, professional development activities, or number of decisions in which they have been involved.
4. Of the four independent variables--adaptive behavior, verbal/performance IQ discrepancy, IQ, and SES--the most variance will be accounted for by IQ and verbal/performance IQ discrepancy combined.
   a. Students with IQ's above 70 and a difference of 15 or more points on verbal/performance IQ discrepancy will tend to be labeled LD by professionals regardless of number of years of experience, role, educational level, professional development activities, or number of decisions in which they have been involved.
   b. Students with IQ's below 70 and a difference of 8 or less points on verbal/performance IQ discrepancy will tend to be labeled EMI by professionals regardless of number of years of experience, role, educational level, professional development activities, or number of decisions in which they have been involved.
5. With mild to moderately handicapped LD and EMI students, adaptive behavior will have less effect than will SES,

verbal/performance IQ discrepancy, or IQ on the the labeling decision for professionals regardless of years of experience, role, educational level, professional development activities, or number of decisions in which they have been involved.

Definitions

The following terms are used repeatedly in this study. A general definition is given for each term and, when appropriate, a specific explanation of how the term is used in this study.

Adaptive Behavior

In the broad sense, adaptive behavior means being socially and cognitively competent in one's environment. When adaptive behavior is measured, the effectiveness or degree to which an individual meets the standards of personal independence and social responsibility expected of his/her cultural group is assessed (Grossman, 1983). Impairment in adaptive behavior is one of several criteria used to determine whether or not a student is Educable Mentally Impaired as described in the Michigan Special Education Rules R 340.1705 (1) (d).

Educable Mentally Impaired

Educable Mentally Impaired (EMI) is one of several categories of impairment described in the Michigan Special

Education Rules. R 340.1705 indicates that to be determined EMI, a student must manifest:

(a) development at a rate approximately 2 to 3 standard deviations below the mean as determined through intellectual assessment.
(b) scores approximately within the lowest 6 percentiles on a standardized test in reading and arithmetic.
(c) lack of development primarily in the cognitive domain, and
(d) impairment of adaptive behavior.

Because most authors in other states refer to the mildly mentally retarded as Educable Mentally Retarded (EMR) instead of Educable Mentally Impaired (EMI), the two terms will be used interchangeably.

Individualized Educational Planning Committee

An individualized Educational Planning Committee (IEPC) determines that a student is eligible for special education and plans the student's program. R 340.1721 (b) lists the participants in the committee. There must be at least a representative of the public agency and the student's teacher. At the initial and three-year re-evaluation meetings, a member of the multidisciplinary evaluation team must attend. Also, the parents must be invited. R 340.1721 (d) defines the responsibilities of the IEPC. They include determination of eligibility, consideration of the need for a change in educational status, and the development of the annual individualized educational program (IEP). R 340.1721 (e) specifies that the IEP drawn up by the committee must include a statement of the person's present level of performance, a statement of annual goals including short-term

instructional objectives, the projected dates for initiation of services and the anticipated duration, appropriate criteria with evaluation procedures and schedules for determining whether or not the instructional objectives are being met, a statement of the specific special education and related services to be provided, and the extent to which the person is able to participate in regular education programs.

Learning Disabilities

Michigan Special Education Rule 340.1713 defines a learning disability as:

> (1) A disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. The term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, or mental retardation, or emotional disturbance, or of environmental, cultural, or economic disadvantage.
>
> (2) The Individualized Educational Planning Committee may determine that a child has a specific learning disability if the child does not achieve commensurate with his or her age and ability levels in one (1) or more of the areas listed in this subrule, when provided with learning experiences appropriate for the child's age and ability levels, and if the multidisciplinary evaluation team finds that a child has a severe discrepancy between achievement and intellectual ability in one (1) or more of the following areas:
>
> (a) Oral expression
> (b) Listening comprehension
> (c) Written expression
> (d) Basic reading skill
> (e) Reading comprehension

(f) Mathematics calculation
(g) Mathematics reasoning

Multidisciplinary Evaluation Team

The Multidisciplinary Evaluation Team (MET) is described in R 340.1701 (a) (e) as ". . . a minimum of two persons who are responsible for evaluating students suspected of being handicapped or handicapped persons being re-evaluated." The team shall include "at least one special education-approved teacher or other specialist with knowledge in the area of suspected disability."

Socioeconomic Status

Broadly interpreted, socioeconomic status (SES) means the relative social class membership of a person based upon a number of factors including type of occupation, educational level, type of housing, ways of spending leisure time, community activities, familial history, etc. People are often thought to be of low, middle, or high status. SES depends not only on tangible evidence such as income level but also on some intangible evidence such as the honor one is accorded in one's community.

For this study, SES was defined narrowly in terms of occupations. Occupations yielding wages at or below poverty level were used to indicate low SES and occupations yielding wages in upper middle income levels were used to indicate high SES. Occupations were taken from the U.S. Census Bureau Earnings by Occupation and Education: 1980 Census (1984).

Verbal/Performance IQ Discrepancy

The Wechsler Intelligence Scale for Children--Revised (WISC-R) assesses the verbal potential of a child by means of information, similarities, arithmetic, vocabulary, comprehension, and (alternate) digit span subtests. The performance potential is judged by picture completion, picture arrangement, block design, object assembly, coding, and (alternate) mazes subtests. Each set of subtests yields a score called Verbal IQ and Performance IQ. These two scores are combined to result in a full-scale IQ score. Verbal-performance discrepancy means that there is a significant difference between these two IQ scores. There is disagreement in the literature on what constitutes a "significant" discrepancy (Kaufman, 1979; Epps, Ysseldyke & Algozzine, 1983; Ysseldyke, Algozzine & Epps, 1982). For this study, a difference of 15 or more points between verbal and performance IQ, in accordance with Epps, et al. (1983), was used to indicate a discrepancy large enough to qualify a student as Learning Disabled. This choice will be more fully explained in Chapter 3.

Wechsler Intelligence Scale for Children--Revised

The Wechsler Intelligence Scale for Children--Revised (WISC-R) is a commonly used individual intelligence test. As previously mentioned, it yields a verbal IQ, and a performance IQ which can be combined into a full scale IQ. IQ tests are believed to be measures of scholastic aptitude or predictors of school achievement. To qualify as EMI, a

child must score approximately 2 to 3 standard deviations below the mean on an individual IQ test; to qualify as LD a child must show a severe discrepancy between achievement and potential that is usually assessed, in part, by administering an IQ test. The WISC-R is used to indicate both full scale IQ and verbal/performance IQ discrepancy in the case descriptions in this study. Exactly how and why the WISC-R is used in the case descriptions will be explained in detail in Chapter 3.

Limitations

Many variables may influence the decision about which label to choose for a particular student. The fact that this study considered only four variables--adaptive behavior, verbal/performance IQ discrepancy, IQ, and SES--should not be taken to mean that there are no other variables that may be operating. Undoubtedly many subtle variables influence the decision to choose a particular label.

Student variables that may affect the classification decision include race, sex, and attractiveness of the student. Also, the teacher's interpretation of the child's classroom behavior and physical characteristics may be influential. Parental preference for a given label, although not investigated in this study, deserves further discussion because it may be a very significant factor in the ultimate decision made in real situations. Identification as Learning Disabled is almost universally believed to be preferred

by parents over identification as Educable Mentally Impaired. Because of the expense and adversarial relationships resulting from special education due process hearings, many school districts may accede to parental desire for the LD classification rather than incur the expense and other difficulties associated with hearings to contest the issue. Thus, parental preference may be a major influence in actual situations where a different handicap is clearly indicated by evaluation data.

A system variable which may affect the classification decision is the availability of staff and, consequently, programs. Even though the state and federal rules specify that an appropriate program must be provided for a student, if there is none, the student is usually placed in an existing program unless there is strong parental objection. The quality of programs and staff may also influence decisions. If a choice between several existing programs is necessary, efforts may be made to place a student in what the district considers to be a "good" program.

This study was done in a middle-sized urban, mid-Western city and, therefore, the results should be generalized cautiously. The Lansing School District has about 23,000 students, about 39% of whom are racial minorities. Approximately 10% of the total population are special education students and of those, about one quarter are minorities. Lansing keeps no statistics on the SES of its students. Heller (1982) has shown that even though minority

students are overrepresented nationwide, especially in the EMI category, there is the least amount of racial overrepresentation in the Midwest (p. 11). Also, it is often assumed that minority students are of low SES, but no such assumption was made in this study. This study considered SES apart from racial or ethnic status.

It should also be remembered that Lansing borders on Michigan State University. Due to close proximity to a university, Lansing staff members have ready access to recent research and developments in the field of special education, and hence they may be more sophisticated than the majority of special education staff members nationwide.

Assumptions

A basic assumption was made in this study, that subjects would respond to a paper/pencil task as they would respond in a real life situation. This may not be true. It is possible that the paper/pencil task was too far removed from real life for subjects to comply.

A second assumption was made that the items used to represent adaptive behavior and socioeconomic status in the case descriptions in the questionnaire were an accurate reflection of what they were intended to represent. For example, it is assumed that being an engineer does, in fact, indicate high socioeconomic status, and that the ability to go to the store to make a purchase does, in fact, indicate high adaptive behavior.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

The literature concerning labeling students for special education is extremely voluminous and complex. Because the focus of this study was labeling students Learning Disabled (LD) and Educable Mentally Impaired (EMI), this literature review concentrates on those two areas and centers upon the factors that influence professionals in making such classification decisions. In addition, literature on the decision-making process itself was reviewed in an effort to determine the principles that operate when one is called upon to decide for or against a particular label.

Much of the literature on labeling students EMI concerned the overrepresentation of blacks and minorities in EMI classes, especially during the early years of special education. The fact that minorities have been overrepresented in the EMI category has been well documented. However, authors disagree on the reasons for the overrepresentation. One group of scholars believes overrepresentation results from social/cultural phenomena and a second group believes clinical or medical causes are at the root of the problem. Both viewpoints will be presented in this review.

In an attempt to alleviate overrepresentation, the definition of EMI was changed in the early 1970's due partly to court cases alleging unfair labeling of minorities and partly to the increasing importance of adaptive behavior as a criterion for the EMI label.

The literature on labeling students LD primarily concerned the lack of agreement on definition and disputes about eligibility standards. Very often, an author defined learning disabilities and then applied that definition to a group of students previously labeled LD to see whether or not they qualified under his/her guidelines. Because there is so little agreement on definition, there are no common standards for labeling students LD.

A number of research studies done over the past two decades that concerned the relative importance of socioeconomic status (SES) and minority status in labeling students will be reviewed in this chapter. These studies attempted to determine whether or not special class placement due to low intellectual ability was influenced by race or SES or a combination of both. Results were contradictory.

If one wishes to investigate the factors that influence labeling, then the process of decision-making itself needs attention also. There is a growing body of research on the decision making process that is divided into two categories. In some studies, the factors that influence individuals toward a particular decision were discussed, and in other

studies, the process by which teams of evaluators reached a decision about an appropriate label for a particular student was discussed.

Therefore the review of the literature will be divided into five major areas: First, SES and minority overrepresentation in the EMI category will be examined with attention given to both the cultural and clinical schools of thought concerning the causes of overrepresentation. Second, the revised definition of EMI will be discussed in conjunction with court cases that have influenced the definition and controversy about the appropriate assessment of adaptive behavior. Third, the attempts of scholars to operationalize various definitions of learning disabilities will be explored. Fourth, specific research studies on race, SES, and special class placement will be reviewed. Fifth, the newly emerging body of research on decision making engaged in by special education personnel both individually and in teams will be examined.

Socioeconomic Status and Minority Overrepresentation

A number of scholars discussed the overrepresentation of minorities in EMI classes before the mid-1970's. Heller (1982) reported:

> The Office of Civil Rights (OCR) routinely examines disproportion in special education and other programs by means of a biannual survey of the nation's school and school district enrollments. An immediate and primary concern of OCR revealed by the survey data, is a persistent disproportion of minority children and males in classes for Educable Mentally retarded students. (p. 4)

He continued:

> However defined, the prevalence of mild mental retardation is correlated with the SES of the family and neighborhood in which the child lives. (The lower the status, the higher the rate.) As we have seen, mild mental retardation is also correlated with ethnicity [SIC], minority children have higher rates. (p. 26)

Mercer (1973) supported this position:

> We would anticipate a heavy concentration of persons from ethnic minorities among low scores on IQ tests if only because many persons from ethnic minorities have low SES. (p. 167)

MacMillan (1982) stated, "There is no question that ethnic minority children have been overrepresented in programs for EMI children" (p. 73). MacMillan also contended that behavioral research indicates that there is a close relationship between mental retardation and SES (p. 1).

Kaufman and Hallahan (1981) asserted that a "proportionately high percentage of males and individuals from minority and low socioeconomic groups are mildly mentally handicapped" (p. 373). They continued:

> There is a strong association between socioeconomic status and mild mental retardation. Children who are diagnosed as mildly retarded are much more likely to come from low SES environments. The prevalence of mild mental retardation is higher among specific ethnic/racial groups if the group is also of lower SES. (p. 220)

There is general agreement that low SES, minority status and the EMI label are highly correlated but there are two separate schools of thought concerning the reason. One group, exemplified by Mercer (1973), Sarason (1979), and Farber (1968), believes the cause is social/cultural; the other group, exemplified by Kavale (1980), Chase (1970), and

Cravioto (1975), proposes medical/clinical reasons for the retardation.

Cultural Etiology

MacMillan (1982, 1980, 1984) presented the case for cultural retardation:

> Most cases of mental retardation cannot be traced to a specific cause, and in the case of EMR children, it is rare that a cause can be established. But physical factors . . . are more likely to be associated with severe retardation; social-psychological factors . . . are most likely to play a part in mild retardation. (1982, p. 79)

He discussed at length (1982, Chapter 3) the fact that in cultural familial retardation, many environmental variables such as a poor genetic pool from which to draw, poor nutrition, retarded parents, poor medical care, lack of prenatal care, poor language models, low need for achievement, and lack of intellectual stimulation are related to mild retardation.

Mercer (1973) viewed mental retardation as a social systems classification bestowed upon a person by society. She argued that the majority of children labeled Mentally Retarded (MR) were labeled by the school and were retarded only while they were in school. They were the "6-hour retarded" or the situationally retarded. Once out of school, they faded into the community and held jobs and raised families. She showed that 40-45% of high IQ children came from blue collar homes, but 95% of the children with IQ's below 70 came from blue collar homes. To Mercer, "From a social system perspective 'mental retardate' is an

achieved social status and mental retardation is the role associated with that status" (p. 27).

Heller (1982) agreed with Mercer (1973) and MacMillan (1980) that schools have always been the chief identifier of EMI children. According to Heller (1982), "About 2/3 of individuals diagnosed as mild MR may disappear into the normal population during late adolescence, losing the label once they leave school" (p. 25). Sarason and Doris (1979) supported the position that the school itself is a factor in familial retardation since "such children are not identified before school entry and disappear after they leave school" (p. 153). Katz (1970) concurred, "Mental retardation may be a social role, acquired as a result of experience by high grade retardates, who have been assigned certain statuses as a result of psychological characteristics" (p. 18).

Heller (1982) offered some reasons for the relationship between low SES and school performance. He maintained that child rearing styles may deemphasize motivational support for cognitive achievement; parental encouragement of verbal development and the provision of good verbal models may be lacking; and parents may not require or encourage children to practice the use of complex verbal symbols (p. 16). Heller (1982) argued:

> It is clear that mild mental retardation is largely a cultural invention and not an objective biological property. It reflects society's expectations regarding intellectual performance and is subject to modification as values change. (p. 172)

Farber (1968) stated the case very strongly when he said the mentally retarded are an "organizationally surplus" population that makes an indirect contribution to social structure through the particular problems they create for the society. Furthermore:

> By their very incompetence and deviance, the populations require for remediation and control a series of institutions to meet the legal, welfare, health, and educational difficulties involved. (p. 13)

Sarason and Doris (1979) maintained:

> Mental retardation is never a thing or a characteristic of an individual but rather a social invention stemming from time-bound societal values and ideology that make diagnosis and management seem both necessary and socially desirable. The shifting definitions and management of mental retardation are not understandable in terms of the 'essence' of the 'condition' but rather in terms of changing societal values and conditions. (p. 417)

Gliedman (1980) agreed:

> The incidence of handicaps that stem from a physical or genetic cause is roughly the same among all ethnic groups, yet minority children were greatly over-represented in such categories of handicaps as mild retardation or mild emotional disturbance where no clear physical or genetic cause could be imputed. (p. 179)

Clinical Etiology

The case for biological or clinical causes of mental retardation has been cogently presented by research in the field of medicine that shows that lack of proper nourishment affects brain development significantly. Chase (1970) studied 19 children who had been admitted to Denver Children's Hospital for undernourishment during their first year

of life. Three to four years later these children were compared to a control group. The test group was lower in height, weight, head circumference, and developmental quotient.

The extent of impairment of their physical and mental development appeared to correlate with the duration of the undernourishment. The nine children treated during the first four months of life had a developmental quotient of 95. If the children were treated after four months, their developmental quotient was 70. Social factors associated with the undernourishment were parental separation, alcohol problems, inadequate money, and many young siblings.

According to Chase (1970), if the undernourishment was corrected before four months of age, the developmental quotient approached normal by age three and one half. Chase pointed out that in underdeveloped countries where breast feeding is a common practice, undernutrition usually occurs after breast feeding stops at about age 12-18 months. In this country, where breast feeding is not generally encouraged for the population as a whole, undernutrition occurs much earlier.

Birch (1971) compared the intelligence of 37 previously malnourished children with the sibling closest to them in age. The malnourished children had all been hospitalized for diagnosed kwashiorkor (high carbohydrate, low protein diet) in the Army Central Hospital in Mexico City when they were between the ages of six and 30 months. The average

hospital stay was six weeks with a range of one to two months. Three years after the children were discharged, the Wecshler Intelligence Scale for Children (WISC) was administered to them and to the control sibling. The full scale IQ for the previously malnourished child was 13 points lower than for the sibling. Verbal and performance IQ were both lower. All differences were found to be significant.

Cravioto (1975) agreed that the younger the child the worse the effects of malnutrition were and the longer the condition lasted. One constant feature of malnourished infants was their reduced exploratory behavior. They never regained what was lost, not only in motor behavior but also in hearing and speech, social personal behavior, problem solving ability, eye-hand coordination, and categorizing skills (p. 31-35). In fact, the lag in language development continued to be present even after clinical recovery (p. 82-83).

Cravioto endeavored to explain the link between malnutrition, intellectual competence, and learning. The simplest hypothesis is that nutrient deficiency directly affects the intellect by producing central nervous system brain damage. However, there are three indirect mechanisms. First, the loss of learning time really means a loss in experience. Second, the interference with learning during a critical period of development leads to abnormalities in sequential emergence of competence or a redirection of the developmental course in undesired directions. Third,

motivation and personality changes could result due to a reduction in responsiveness and an increase in apathy. This apathy may reduce the value of the child as a stimulus to the mother, and, consequently, she reduces her interactions with the child (p. 91).

Kavale (1980) maintained that malnutrition results in intrasensory processing problems, and affects the acquisition of academic skills because it interferes with perception and cognition. He pointed out that environmental stress interferes with food metabolism; thus, learning is reduced due to undernourishment of brain cells. Kavale was describing the "culturally disadvantaged" (CD) child. His research was done in California where a culturally disadvantaged child can only be labeled EMI or Emotionally Impaired (EI) but not LD. Kavale demonstrated that the CD child had characteristics similar to the LD child and should have that category available as an option. In Michigan, we have no such restriction on labels.

In summary, it could be said that the two schools of thought on causation--cultural vs clinical--are not actually in conflict. Instead, the medical evidence supports the position that cultural disadvantage leads to impaired development. The cultural group recognizes that there is a difference in the EMI children, at least while they are in school. They also maintain that the schools are the institution chiefly responsible for identifying this difference. The clinical group offers a reason.

EMI Redefined

Three closely related trends converged in the early 1970's to bring about a new focus for the definition of EMI. First, a number of court cases were instituted which challenged the placement of minority children in EMI classes. Second, the American Association on Mental Deficiency (AAMD) changed its definition of EMI. Third, adaptive behavior received renewed interest as a criterion for the EMI label.

Court Cases

During the early 1970's, a number of court cases relating to the infringement of the rights of minorities to the proper placement of their children in EMI classes were entered into the courts. Burket (1982) provided a detailed review of these cases. Several of the cases which have had a direct impact on the identification and placement issue will be discussed.

In Diana vs. State Board of Education (1970), nine Mexican-American students in California claimed they were improperly placed in classes for the mentally retarded. They objected to the fact that the IQ tests used to place them there were culturally biased. The case was settled by a stipulated agreement which specified that the State of California would test bilingual students in both their primary language and in English and that all Mexican-Americans and Chinese-Americans already in special classes would be reevaluated (Burket, 1982, p. 38).

In Mattie vs. Holladay (Mississippi, 1977), the issue was that minority children were placed in Educable Mentally Retarded (EMR) classes at a rate over three times that of majority children. Conversely, non minority children were placed in resource rooms and more integrated LD classes at a rate more than double that of minority children. The case was settled in 1979 by a consent decree that ordered the state of Mississippi to enact a child find program, to collect information sufficient to determine whether each local district was placing children in the least restrictive environment, and to identify, refer, evaluate, and place EMI and LD children in a nondiscriminatory manner (Burket, 1982, p. 44-45).

In Larry P. vs. Riles (California, 1974), the judge ruled that minority children were unfairly discriminated against by the use of IQ tests standardized on the majority population. He ordered the state to stop using all standardized IQ tests to identify or place black children in EMI classes without prior court approval of the test. The state was ordered to monitor and eliminate disproportion in placement of black children. The state was also ordered to reevaluate every black child currently identified as an EMI pupil without using a standardized IQ test that had not been approved previously by the court (Burket, 1982, pp. 45-46).

In Parents in Action on Special Education (PASE) vs. Hannon (1974) in Chicago, several parents of EMI students indicated that black students were placed in EMI classes at

a rate three times that of whites. The plaintiffs further alleged that the WISC, WISC-R, and Stanford-Binet intelligence tests were racially biased. The judge decided that the students were erroneously diagnosed as mentally retarded but he found only one item on the Stanford-Binet and eight items on the WISC and WISC-R that he determined were culturally biased. He ruled that the tests, when used with other criteria, were not discriminatory (Burket, 1982, p. 48-49).

As a result of the Diana and Larry P. cases, many children in California were determined ineligible for special education. Myers, MacMillan, and Yoshida (1978) compared matched samples of decertified and certified EMI children from 12 districts to see whether or not school psychologists could be considered biased in their original certification of the children. Forty-five percent of the children retested after the court cases were returned to regular classes, but Myers et al. found no evidence of "racist intent to overrepresent" (p. 6). Nothing except IQ at the time of decertification distinguished the two groups. In the authors' opinions, the court did not take into account the fact that the children were failing in school before being certified for special education. All students had been in regular education at least two years before certification. Even IQ at placement did not indicate later decertification. The authors pointed out that IQ is not necessarily constant and there could have been measurement

errors. They concluded with, "This study fails to support charges of poor psychological assessment or selective identification of cases" (p. 14).

The court cases resulted in a reluctance to use IQ tests standardized on majority populations as a basis for placement of minority children in special classes. In fact, in California, the use of IQ tests for placement was prohibited. Cremins (1981) in his discussion of the impact of the Larry P. case on California certification practices, suggested that perhaps California should emulate Massachusetts, and classify programs, not students. In Massachusetts students are placed in the most appropriate program according to their IEP regardless of their disability.

In spite of the fact that in California IQ tests cannot be used for placement except under specified conditions, Brosnan (1984) found that minorities and low SES students were still overrepresented, especially in EMI classes. Brosnan gathered descriptive statistics from 72 school districts (1,296 schools) by using data from the U.S. Department of Education Office of Special Education, the Regional Office for Civil Rights, and the California State Department of Education. She examined 40 variables including student enrollment, percent of students in special education by race, category, and SES (determined by using aid to dependent children statistics and parental occupation), and district mean achievement scores.

Brosnan found that there was a significant negative correlation between minority enrollment and SES (districts with low minority enrollment tended to be high SES); there was a positive correlation between minority enrollment and the percentage of students identified as handicapped; black students were overrepresented in EMI and LD categories; and low SES school districts had twice as many students identified as LD as high SES districts. In addition, the number of students identified as LD had increased as the number identified as EMI had decreased. From Brosnan's study, it appeared that even without using IQ tests for placement, California still overrepresented minorities in the EMI category.

Changed Definition of EMI

Another phenomenon taking place at this time was a change in the American Association on Mental Deficiency's (AAMD) definition of mental retardation. Since its inception, AAMD members have agreed upon a definition of mental retardation that has periodically been revised. Over the years, the definition has been regarded as a standard by which to judge mental retardation. Its present definition is:

> Mental retardation refers to significantly subaverage general intellectual functioning in or associated with impairments in adaptive behavior and manifested during the developmental period. (Grossman, 1983, p. 1)

In his discussion of the definition, Grossman (1983) stated that subaverage intelligence means an IQ below 70,

although it could be extended up to 75, especially in a school setting. Along with subaverage intelligence, impairments in adaptive behavior must be evident. Impaired adaptive behavior refers to limitations on a person's ability to meet the standards of maturation, personal independence, social responsibility, or some combination of these expected by the individual's age and cultural group. The developmental period mentioned in the definition means that the condition must be identified between conception and the person's 18th birthday.

There were three major changes in this definition from the previous AAMD definition. The category of "borderline" retardation with an IQ from 70-85 was eliminated; adaptive behavior, first mentioned in the 1959 manual, was elaborated upon, and the developmental period was extended from age 16 to age 18. The AAMD published its first manual on classification in 1921. The second edition was published in 1933 and the third in 1941. Other revisions occurred in 1957, 1959, and 1961.

The 1959 manual changed the previous definition of mentally retarded from an IQ below 70 to an IQ one standard deviation below the mean (Heber, 1962). This change made it possible to include almost 15% of the total U.S. population in the category of mentally retarded. Yet the developers of the manual were aware that many individuals with an IQ between 70 and 85 did not function as retarded in society (Grossman, 1983, p. 6). Due to concern about the ability to

label such a large percentage of the population retarded, the 1973 manual returned to the more traditional cut-off of 70 for the upper limit of retardation.

A study specifically concerned with IQ cut offs (69 vs 75) was done by Reschly and Jipson (1976) in Pima County, Arizona. A stratified random sample of 1040 children with equal numbers of Anglos, Blacks, Mexican-Americans, and Papago Indians was given the WISC-R. The results showed that if 69 was used as the cut-off point and nonverbal intellectual measures were used with Mexican-Americans, then overrepresentation of that group was "virtually eliminated" and the overrepresentation of Blacks, and Papago Indians was "greatly reduced" (p. 160). However, a cut-off of 75 led to overrepresentation of all non-Anglo groups.

Adaptive Behavior

In addition to returning to 70 as the upper limit for mild mental retardation, there was also renewed interest in the influence of adaptive behavior on the definition of mental retardation at this time. There was, and is, much controversy about how to assess adaptive behavior fairly. Mercer (1973) pointed out the need for a comprehensive measure of adaptive behavior that covered a wide range of social roles and behaviors in the community.

Bailey and Harbin (1980) designated three types of adaptive behavior scales, namely, developmental, psychosocial, and social systems scales. The developmental scales are sets of age-related developmental milestones,

normed on white middle class populations, exemplified by the Vineland Social Maturity Scale by Edgar Doll (1965). The psychosocial scales are more comprehensive than the traditional norm referenced psychological or social devices. They were originally criterion referenced and were developed to aid in planning programs for institutionalized or low functioning mentally retarded people. Some examples are the Devereux Child Behavior Rating Scale, the Lakeland Adaptive Behavior Scale, Camelot, and the Adaptive Behavior: Street Survival Skills Questionnaire.

Another example of the psychosocial scales is the American Association on Mental Deficiency Adaptive Behavior Scale--Public School Version (Nihira, 1974). It is norm referenced and was standardized on a public school population yielding separate norms for normal and handicapped children. It is widely used, but there are two criticisms. First, the scale was designed for low functioning children and some critics say it does not sample a broad enough range of behavior to encompass mildly retarded and normal children. Second, the groups of EMI and TMI children on whom it was normed could have included some erroneously classified children since these children were labeled before adaptive behavior measures were used. This fault was corrected in the 1981 edition.

The third type of adaptive behavior scale is the social system scale. The Adaptive Behavior Inventory for Children (ABIC) by Mercer (1978) is the only example of this type of

scale. It assesses the ability to participate in social roles in home and community. However, its educational relevance has been questioned because it is difficult to transfer a child's performance into an educational plan and it lacks local norms.

The System of Multicultural Pluralistic Assessment (SOMPA), developed by Mercer and Lewis (1978), uses existing tests but pluralistic norms to compute a child's "estimated learning potential" by using different regression equations for children from Black, Anglo, and Chicano cultures. The system adjusts scores of minority children upwards (Ysseldyke & Regan, 1979, p. 7). Mercer (1973) said that adaptive behavior and IQ are highly correlated and ethnic group and SES are highly correlated. Therefore, if low status blacks are also low IQ, adaptive behavior will provide important information on how they function. Yet the addition of adaptive behavior to IQ does not change the rate of identification for whites. It adds little new information. Thus, adaptive behavior does reduce the rate of identification for Blacks and Mexican-Americans, and therefore, it is important to assess the adaptive behavior of ethnic and low SES persons.

Neldea M. Slate (1983) compared the ABIC by Mercer and Lewis, the Vineland Social Maturity Scale, and the Behavior Rating Profile (Brown and Hammill, 1978). The subjects were 52 mentally retarded children (Group I), and 105 nonretarded children (Group II) in the fourth grade in New Orleans.

There were 79 girls and 78 boys, 112 Anglos and 45 Blacks, and 29 lower working class, 49 upper working class, 51 lower middle class and 28 upper and upper middle class children. The purpose of the study was to see if SES contributed to the scores.

Slate found that the mentally retarded children were measured similarly by all three instruments but the normal children were not. Group II Black and Anglo children had "significantly different mean scores" on the Vineland. Both racial groups scored above the mean with Anglo scores exceeding black scores in excess of one standard deviation. Lower working class children scored more than one standard deviation below lower middle class children and more than two standard deviations below upper and upper middle class children. Group I and II children were clearly delineated when the ABIC was used. Black and Anglo Group II children both scored within one standard deviation of the mean on the ABIC. The BRP did not discriminate between the behavior of retarded and other children. That scale should be used for programming as it was intended according to Slate.

Nadine Lambert (1977, 1979) field tested the efficacy of the AAMD Adaptive Behavior Scale--Public School Version, to see if sex, ethnic background, or status made a significant contribution to domain scores. She concluded that the domain scores derived from teacher administration of the scale had validity for differentiating EMI and regular class pupils ages 7 to 12. In Part One, the adaptive behavior

functioning of boys and girls and children of different ethnic groups was similar. In Part Two, where there were differences due to sex or ethnic status, the manual provides norms for those reference groups that should be used to interpret results appropriately.

There is still a great deal of controversy about what constitutes a good measure of adaptive behavior. According to Bailey and Harbin (1980), the issues are:

1. No consensus as to what comprises the adaptive behavior construct.
2. Instrumentation is questionable because the scales rely on parent interviews or teacher reports which are less time consuming but also less reliable than direct observation.
3. Misclassification due to the fact that the use of adaptive behavior scales has reduced over-representation of minorities but perhaps it has led to underrepresentation. (p. 592)

Learning Disabilities Definition

The emerging Learning Disabilities category was receiving increasing attention at about the same time that over-representation of minorities, legal battles about labeling, and the use of adaptive behavior scales were in the forefront. The category of Learning Disabilities is defined in the Michigan Special Education Rules (consistent with the federal definition) as a "disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations." The child may be determined Learning Disabled if he/she "does

not achieve commensurate with his or her age and ability," and if the Multidisciplinary Team (MET) finds that the child has a "severe discrepancy between achievement and intellectual ability" (R 340.1713). Operationalizing this definition is the problem.

As Shepard, Smith, and Vojir (1983) asserted, "Basic research has failed to clarify the psychological construct of learning disabilities," the symptoms, or origins (p. 310). Researchers in the 1970's selected clinical samples of children already identified and contrasted them with low achievers. Such research suffered from (1) an absence of appropriate controls, (2) a lack of comparable definitions, (3) confounding the disorder with its identification (when clinical samples are used, one relies on the validity of the original identification), and (4) biased samples (researchers used accessible samples rather than probability samples). To prove their point, the authors studied the files of 800 LD labeled students to ascertain common characteristics. They found that fewer than 50% of the 800 had characteristics associated in federal law or professional literature with learning disabilities. They concluded that when the label is applied "for purposes of service, it cannot be assumed to be valid" (p. 310).

A number of studies have been done by Ysseldyke, Algozzine and others at the Institute for Research on Learning Disabilities at the University of Minnesota. In one study, Ysseldyke, Algozzine, Shinn, and McGue (1982)

compared 50 school identified LD fourth graders with 49 low achievers not identified as LD. All students were administered a battery of psychoeducational tests. The authors found that from 82-100% of the students in both groups earned scores within a common range on 49 different measures. As many as 40 of the 99 students were misclassified using strict application of the federal definition.

Epps, McGue, and Ysseldyke (1982) conducted another study on the same sample and found that the 18 judges they used showed little agreement and were extremely disparate whether compared to the school's classification, federal definition, or low achiever definition. The judges were more in agreement when identifying the non LD students.

In another study, Ysseldyke, Algozzine and Epps (1983) found that using 17 different definitions in the three categories of ability achievement discrepancy, grade placement achievement discrepancy, and scatter, provided no characteristics which differentiated LD students from unlabeled low achievers. Eighty-eight percent of the low achieving but nonlabeled sample could be identified as LD using one of the definitions and 4% of the LD sample did not fit any of the definitions.

Epps, Ysseldyke, and Algozzine (1983) developed 14 operationalized definitions of learning disabilities. Again, students labeled LD by their school districts and students who were low achievers, but not identified as LD, were assessed. The percentage identified by each definition

ranged from 5.3 to 69.9 for the LD sample. Nine of the 14 definitions did not identify even half the students who had previously been identified in their school districts. The authors determined that we can include or exclude students depending on the definition and how it is operationalized.

In still another study on judges ratings, Epps, Ysseldyke, and McGue (1984) found that 65 school psychologists, 38 special education teachers, and 21 students not in special education did not agree with the school classification of the students in about half the cases. In fact, the naive group was more accurate in labeling the lower IQ students. The authors concluded that access to information did not appear to increase the decision maker's ability to discriminate.

The concept of "scatter" as it is used in the LD definitions deserves additional comment. Both federal and state rules specify that a "severe discrepancy" must exist between achievement and potential for a child to be learning disabled. One very common method of indicating severe discrepancy is to use what many authors call "scatter" on an IQ test. When Epps, Ysseldyke, and Algozzine (1983) developed their 14 operationalized definitions for LD, they grouped them into three categories called ability-achievement discrepancy, grade-placement discrepancy, and scatter. Of these, the first two categories were based on the differences between student achievement test data and IQ test data. The third, scatter, was based on differences within

the WISC-R itself and was defined in two ways. First, it could be a difference of from 9 to 15 or more points between verbal and performance IQ depending on the level of significance found in the studies they reviewed. Second, scatter could be shown by a difference of 10 or more points between scaled scores on the highest and lowest WISC-R subtests. It should be pointed out that the authors were not advocating a particular definition. Instead, they were categorizing definitions already in use by practitioners.

Banas (1984) examined the literature to find a data base and conceptual model for defining learning disabilities. In order to do this, she identified, reviewed, and categorized research on the definition of LD from 1970 to 1980. She maintained that even though "discrepancy is not clearly defined . . . it is the basis of identification by most educational agencies today" (p. 43). Yet, she could find only two positive reports for using discrepancy criteria to qualify children as LD, and they were done before federal legislation came into use. Since then, all reports are in doubt or were negative (p. 45). In her opinion, the problem is that IQ and achievement tests are so highly correlated that an LD child will perform poorly on particular sections of both and a discrepancy will not be evident.

While Banas considered discrepancy criteria in general, Alan Kaufman (1979) discussed intelligent use of the WISC-R, in particular, from the perspective of the psychologist. In his explanation of the size of verbal/performance

discrepancy required for statistical significance, he contended that nine points is significant at the .15 alpha level, 12 points at the .05 alpha level; and 15 points at the .01 alpha level. Kaufman considered "12 points to be a difference that is worthy of explanation" and the "95% confidence level is sensible" (p. 24). However, Kaufman stated that when there is considerable scatter within the verbal or performance scaled score subtests then the discrepancy between the two scales "becomes meaningless" (p. 48).

Kaufman also cautioned that the issue of statistical significance in verbal/performance discrepancy says nothing about frequency. About 25% of normal children have a discrepancy important enough for further explanation. In fact, a discrepancy of 15 points occurred in about 24% of the children on whom the WISC-R was normed. Kaufman specifically mentioned the use of verbal/performance discrepancy for diagnosing learning disabilities:

> The common use of a significant verbal-performance discrepancy as an important piece of evidence for diagnosing an individual as learning disabled emphasizes the basic unawareness of the test users regarding the frequency of significant verbal-performance discrepancies within a normal population. Whether verbal-performance fluctuations are even characteristic of learning disabled children remains to be seen . . . . Additional research is needed to determine whether large verbal-performance discrepancies really do characterize LD children or whether this is a clinical assumption made without awareness of fluctuations in normal profiles. (pp. 51-52)

Another study that supported the concern of Kaufman and Banas with using discrepancy criteria was done by Root

(1983). In it, he attempted to ascertain which variables distinguished Emotionally Impaired (EI), LD, and EMI children in Albemarle County, Virginia. To do this he collected information on 531 children on 13 variables that were related to categorical definitions plus sex and race. Data were taken from each child's confidential folder. The variables used were scatter on the WISC-R, reading achievement, math achievement, reading discrepancy (based on the correlation between reading achievement and intelligence), math discrepancy, behavior ratings and social behavior (derived from author interpretation of material in the students' confidential file). Root tried to predict the student's label based on these variables. He found that the LD children showed neither discrepancy nor low achievement. However, EMI children had significantly lower IQ scores and EI children showed more deviant behavior than others. Also, nonwhites were overrepresented in the EMI category.

Clarizio conducted several studies using the WISC-R to identify special education children. In one study (1981) he recategorized the WISC-R verbal and performance subtests into three categories instead of two in accordance with Bannatyne's (1968) model, and then attempted to see if LD, EMI, EI, otherwise impaired and nonimpaired children (already school identified) could be discriminated. They could not. In fact, the recategorization identified about 36% of the LD children and 32% of the nonimpaired children. In another study (1983) he used verbal/performance discrepancy

or High Similarities/Low Information on the WISC-R to see if 64 EI children could be discriminated from 290 controls. He found that neither pattern identified the EI children even 50% of the time.

In summary, all of the above authors seem to agree that we have not yet developed an operationalized definition of learning disabilities that identifies children accurately. Perhaps Banas best summarized the situation with:

> When learning disability as a global profile was tested, results varied and findings were inconsistent. There were many studies reporting that there were factors that may identify an LD group from a non-LD group, but these studies suggested: (1) single elements in a specific population may not be present in another population, (2) the populations tested may not be well defined in the first place, and (3) there is no indication that there is a global "LDness" that can be identified. (p. 50)

Research Studies on Race, SES and Special Class Placement

A number of studies investigated socioeconomic status (SES), race, and special class placement. Some of the studies concerned only race or SES, and others addressed both issues. The great majority of the studies supported the position that both race and low SES contribute to special class placement. Even though the focus of this study was SES, and not race, studies with race as a factor were reviewed because race and low SES have been shown to be so closely correlated.

SES and Intellectual Ability

The majority of studies reviewed found that low SES did affect special class placement decisions. Bergan and Smith (1966) investigated the effects of SES and sex on prospective teachers' judgments of competence and social acceptability of retarded children. Seventy-two female junior and senior educational psychology college students rated a hypothetical child on 20 attributes. Four conditions were represented--male high status, male low status, female high status, female low status. The authors found that high status children of either sex were regarded as more socially acceptable and more competent than were low status children of either sex.

Neer, Foster, Jones, and Reynolds (1973) explored the relationship between SES and the diagnosis of mental retardation. They sent three case studies of different SES--low, middle, high--to 31 psychologists in state guidance centers and asked for a diagnosis of each of the three cases. Their results indicated that low SES had a significant effect because the low SES case was more often diagnosed as mentally retarded. However, there was not a significant difference between the middle and high status cases.

Broman (1975) described the Collaborative Perinatal Project (CPP) of the Institute of Neurological Disease and Stroke. The project was a comprehensive longitudinal study of the development of children that included all pregnant women from 1959 to 1965 who came for care to the University

of Minnesota hospitals. It was designed to determine the degree to which events during pregnancy and delivery affected their children later. The project studied 169 independent variables divided into six family characteristics including SES (determined by combining scores for education, family income, and occupation in accordance with the US Bureau of the Census formula), 25 family history characteristics, 19 maternal characteristics, 26 prenatal period characteristics, 30 labor and delivery characteristics, 25 neonatal characteristics, and 37 infancy and childhood characteristics.

Eighty-two of the variables were statistically significantly associated to IQ. The children were tested at four months, eight months, one year, four years (with the Stanford-Binet) and at six years (with the WISC). Even though no variable accounted for more than 15% of the variance, the authors discovered that the two most significant factors related to the child's IQ were the educational level of the mother and SES. Maternal age was significant also in that young mothers had lower IQ babies.

In a follow-up study to this project, Rubin, Krus, and Balow (1973) investigated nonintellectual factors related to EMI placement. Through the project, children could be studied before and after, and independent of, school placements. For the follow-up study, SES as previously determined, the Stanford-Binet given at age four, and the WISC given at age six were used. Results of these tests were not

given to the schools unless specifically requested by parents.

At the time of this study, 32 children from the project had been placed in special classes even though 85 children had scored within the EMI range that at that time in Minnesota was 50-80 IQ. Of the 32 special class children, 28% (9) scored above the EMI range. Thus, IQ alone was not the determining factor. Sex was not a determining factor, nor were language development or school readiness tests that had been administered before first grade entrance. Race was not a factor either, since 95% of the children were white. SES was the one factor that significantly differentiated regular and special class pupils of both average and low IQ. However, the nine average IQ special class children had done poorly on the School Behavior Profile rating.

Smith and Greenberg (1975) surveyed 288 teachers in New York to evaluate the appropriateness of the mentally retarded label. Nine hypothetical profiles containing information on SES, school performance (IQ and achievement), and behavior in school and community were presented to the teachers (one profile per teacher). In all cases, IQ and achievement data were identical and reflected borderline mental retardation. Three levels of social class and three types of outside school behavior--competent nondeviant, competent deviant, incompetent nondeviant--were used. The authors determined that the lower the social class the more appropriate the EMI label was judged to be. Also, for the

lower class students, adaptive behavior was independent of the EMI label. Teachers could see the child as competent outside of school, either deviant or nondeviant, but retarded in school.

In another study of SES, Warren (1975) surveyed all regular education teachers in a small district in the East in which 99% of the students were white. She asked teachers to name students least likely to succeed in school, least likely to earn a good living once out of school, and most socially maladjusted. Two hundred ninety eight students were named. She used free lunch as an indicator of low SES. Of the 362 children receiving free lunch in the district, 12% were named. This 12% was 14% of the total students named. Yet low SES free lunch students represented only 8% of the total school population. Therefore, Warren concluded that low SES students were overrepresented.

Kealy and McLeod (1978) analyzed the subtest scores on the Canadian Test of Basic Skills for 333 children in grades four to six. Of these children, 74 were performing below the 25th percentile. Using their own criteria, Kealy and McLeod identified 35 of the 74 as LD. The schools had diagnosed 19 of the 74 children as LD. SES was determined by father's occupation and then related to the LD label. Thirteen of the 19 school identified children were from high SES families and 6 were from low SES families. Of the 16 non school identified LD children, 11 were low SES and 5 were high SES. In fact, 6 of these children were school

identified as EMI. Of those 6, five were low SES and one was high SES. The authors cautioned:

> Diagnostic personnel must themselves guard against the prejudgment that low achievers in inner city schools are common retardates while their cousins in the suburbs are "learning disabled." (p. 598)

Brown (1980) related SES and the EMI label. To do this, he determined father's occupation for the graduates of Kent Occupational High School for EMI students in Grand Rapids, Michigan, for the years 1964 to 1979 by examining student records. Of the graduates, 72.2% had fathers in blue collar skilled or unskilled occupations. Brown's results were not significant when compared to a study done by Tobias in 1970 in New York that he was replicating. Tobias found 80% of the New York fathers were blue collar skilled and unskilled. However, if Brown had related his percentage to Grand Rapids students as a whole his results might have been more useful.

Gelb (1984) compared the relationship of normative and nonnormative handicaps to social factors. He termed "normative" handicaps (hearing impaired, visually impaired, orthopedically impaired, and multihandicapped) those for which there is clinical organic evidence of impairment; "nonnormative" handicaps (educable mentally impaired, learning disabled, emotionally impaired, and gifted) were those for which there is no clinical evidence so they must be inferred from IQ and achievement measures. In his opinion, nonnormative handicaps are "uniquely linked to the social context of education" (p. 3). Gelb listed 13 social demographic

variables--measures of ethnicity, social deviance (school suspension, corporal punishment, inmates in correctional facilities), SES (children living below poverty line, infant mortality rate, personal income per capita, educational cost per pupil, number of public aid recipients)--as predictors of special education classification. He gathered data from 50 states.

After analyzing data by regression analysis, Gelb found that 12 of the social predictor variables accounted for 75.2% of the variance for the EMI label. EMI was significantly and positively associated with measures of poverty and significantly and negatively associated with positive measures of SES. Parenthetically, the association of blacks and the EMI label was strong but apparently this was due indirectly to the group's relationship to other SES variables. It wasn't blackness per se but SES that made the difference. In addition, the prevalence of LD was positively related to positive measures of social status and negatively related to measures of poverty.

At least one study did not support the low SES/EMI connection. Adelman, Taylor, and Nelson (1982) conducted a telephone survey of upper and lower income (determined by census tract data) local residents in Los Angeles, California. They expected to find more learning problems in the lower income areas and fewer people receiving help, but they discovered more learning problems reported in upper income areas, 12.5%, as opposed to lower income areas, 8.1%. Of

the children reported as having learning problems, 51% of the upper class children were formally labeled and 29% of the lower class children were labeled. Both groups expressed satisfaction with the help they were receiving. The authors surmised, however, that perhaps the lower income group didn't perceive a problem when one existed.

Race and Intellectual Ability

Sandra Scarr-Salapatek (1971) investigated whether or not race was useful in predicting IQ. She began her study with a discussion of the fact that race and social class refer to population subgroups and reproduction is more likely to occur within subgroups than between subgroups. Even within races, social classes practice more endogamy than exogamy. Also, brighter children in families in all but the top social classes are upward mobile, and duller children are downward mobile. Even though fathers' IQs may differ by 50 points from top professionals to unskilled laborers, their children's IQs probably don't vary by more than 25 points.

In April, 1968, Scarr-Salapatek identified all the twins in the Philadelphia Public Schools (992 pairs). She assigned the pairs to below, above, and middle classes by census tract data within the black and white races. After administering IQ tests, she found that the mean aptitude score of whites was slightly below the national mean and the mean aptitude score of blacks was one standard deviation below the Philadelphia mean. The mean of the below median

white group equaled or surpassed the mean of the above median blacks. Additionally, social class groups were far more differentiated among whites than among blacks. She decided that there was a difference between the races but that giving young black children "rearing environments more conducive to the development of scholastic aptitude" could affect the difference in IQ (p. 1292).

Trotman (1977) investigated whether or not middle class black and white ninth grade girls experienced similar home environments in the areas related to intelligence test performance. Fifty black and fifty white mothers were interviewed using Warner's Index of Status Characteristics and Wolf's measure of home environment which rated, among other things, intellectual aspirations and expectations, rewards for accomplishments, emphasis on language use and correct language, and learning supplies found in the home. Trotman noticed a positive relationship between the home environment and the child's IQ score. For blacks, the degree to which the family exhibited an intellectual home environment was as good a predictor of the child's academic achievement as was an IQ test. The relationship was positive for whites also, but much weaker.

Harrington (1983) concluded that race did not influence the teacher's decision to label a student emotionally impaired or learning disabled. Eighty-six professionals including 25 school administrators, 13 psychologists, 14 LD teachers, 11 EI teachers, 17 regular education teachers, and

16 others were given case studies showing the presence or absence of race, IQ, and a teacher report. Race did not influence the decision, nor did IQ, but teacher report did. Role accounted for 6% of the variance and a majority of professionals rated the student LD. Her study, a doctoral dissertation, was marred by the fact that the case studies were not systematically controlled. Instead of 8 distinct cases, there were only 6; the level of IQ was not controlled; and the level of achievement was not controlled.

Race, SES, and Intellectual Ability

Several studies concerned both race and SES rather than trying to separate the two variables. Lesser (1965) studied the pattern of mental abilities that he called (1) verbal ability, (2) reasoning, and (3) number facility and space conceptualization in four groups of children--Chinese, Jewish, Black, and Puerto Rican. He learned that middle class children were superior to lower class children on all scales and subscales and that ethnic groups made a difference. On verbal ability, Jewish children scored highest, then Blacks, then Chinese, and last, Puerto Ricans. With reasoning, Chinese children scored first, then Jewish, then Blacks, and last, Puerto Ricans. With number facility and space, Jewish children scored highest, then Chinese, then Puerto Ricans, and last, Blacks. In summary, he concluded that "ethnicity has the primary effect on the organization

of mental abilities and this organization is not modified by social class influences" (p. 76).

Lenkowsky and Blackman (1968) asked 72 white female graduate students to rate a hypothetical mentally retarded child on aspects of academic competence and social acceptability. The cases were a black doctor's child, white doctor's child, black laborer's child and white laborer's child. They detected no difference in academic competence based on race and no interaction between race and social class. However, whether black or white, the lower class child was less socially acceptable to the teachers than was the middle class child.

Franks (1971) tried to determine ethnic and social status characteristics of EMI and LD children in the state of Missouri from a random sample of 274 EMI and 215 LD children. Their teachers were sent questionnaires asking the occupation of the principal parental wage earner, ethnic origin, and child's IQ. Sixty-six percent of the EMI and 86% of the LD questionnaires were returned. An occupational prestige score of 54.69 was computed for EMI children and 63.44 for LD children. Of the EMI children, 34.2% were black and 65.79% were white. Of the LD children, 3.22% were black and 96.78% were white. Unfortunately, it is difficult to draw conclusions about the influence of race or social class without knowing how these figures compare to race and social class for all students in the state.

Prillaman (1975) sought information on 7,427 EMI children in Virginia by sending questionnaires to teachers. His results showed that some children with IQs above 75 were assigned to EMI classes; there were more blacks than whites in EMI classes and the majority of EMI students were from low SES environments; there was also a high percentage of males in the EMI classes.

Lanier and Wittmer (1977) assessed teacher attitude toward race, SES, sex, and classroom behavior in Florida by asking teachers how they would label a student described in a hypothetical case study. The study was prompted by the fact that 83% of the children in EMI classes were black even though only 30% of the students in the school system were black. One objective of the study was to see whether or not teacher's race influenced the decision. The child's race was determined to be significant in whether or not he/she would be referred for special education. Blacks were referred more frequently than whites. However, race of the teacher was not significant. Lanier and Wittmer concluded that black teachers too subscribe to the white value system. SES was a significant factor for cooperative students but not for uncooperative students in whether or not they would be referred for counseling instead of special class placement.

Keyes (1982) questioned how race, SES, and racial composition of the district accounted for unexplained variation in special education placement decisions. Five vignettes

were sent to special education leaders in Virginia and Maryland in which they were asked to rate students as EMI or LD. Typical characteristics were avoided, but the vignettes included language, classroom behavior, teacher-pupil relationships, classroom achievement, self concept, and IQ. Keyes found that race was not a factor in EMI classification but SES was. Low SES children were more often identified as EMI. Keyes explained that in Virginia, there is no prohibition against labeling low SES students EMI as there is against labeling them LD. The high and low SES whites were labeled EMI equally, but high SES blacks were much less likely to be EMI than low SES blacks. Low SES blacks were identified as EMI more than any other group.

One study, Argulewicz (1983), did not find a relationship between race, SES, and EMI status. Argulewicz investigated special education placements for Anglos, Blacks, and Hispanics in a large Southwestern elementary school district. Low and mid-high status, and home language were related to each racial group. SES was determined by whether or not the school received Title I funds. The authors learned that mid-high SES Spanish-speaking students had the highest probability of being in special education. The LD category was assigned most frequently to all ethnic groups and in both SES groups, but it was used most often in mid-high SES schools. The linguistic variable was more influential in special education placement than was SES. The author surmised that the vague LD definition permitted

classifying students for special education almost independently of the reason for their lack of school progress. In the author's opinion, many parents feel the LD label is less objectionable than the EMI label and in some cases, request it. Mid-high SES blacks were underrepresented in the EMI category possibly due to black resistance to the EMI label after the California court cases.

In summary, by far the majority of studies supported the position that low SES and low intelligence are connected and very often lead to special class placement, usually in the EMI category. The entanglement of race and SES in the studies was evident, and even in the SES-only studies, the effect of race was usually not ruled out. Rather, race was not mentioned. Even though most of these studies were done in the early and mid-1970's, the later ones still came to the same conclusion that SES and race do affect intelligence, and hence, special class placement.

Decision Making

There is a growing body of research focused on decision-making in special education. Most of this research concerns identifying the student characteristics that influence decision makers toward a specific label. Ysseldyke and others at the Institute for Research on Learning Disabilities have produced the greatest amount of research in this area. Possibly because there is so little agreement among professionals on what constitutes a learning

disability, professionals in that field are greatly interested in assessment and the process of making decisions.

In two separate papers, Ysseldyke and Algozzine (Ysseldyke & Algozzine, 1980a; Ysseldyke et al., 1980b) reported on a computer simulation study of assessment and decision making. In the first study, Ysseldyke and Algozzine (1980a) presented a group of 154 professionals with a computer simulation asking them to request diagnostic information on a hypothetical child. In the second study (Ysseldyke et al, 1980b), the 83 people from a broad spectrum of roles in special education who said the child was eligible were selected for further investigation. In that second study, each subject was asked to read a case folder and make decisions. Further information was available if requested. Subjects were randomly assigned to one of 16 experimental conditions reflecting variations in referral information. The variations were sex, SES as determined by parental occupation, type of presenting problem (behavior vs. academic), and attractiveness of student.

Ysseldyke et al. (1980b) determined that participants selected further tests in a similar manner regardless of referral information. Yet different decisions were made. Fifty-two percent of the participants found the child eligible in spite of the fact that all test data indicated average performance. If the referral statement was behavioral, it was more likely the child would be classified as EI. Decisions to classify the child LD were based on certain

specific characteristics. For example, unattractive low SES girls referred for academic problems were more likely than others to be diagnosed as LD. The authors judged that examiners "may hold and seek to confirm preconceived notions about assessment based on the child's characteristics" (p. 10).

In a subsequent study, Ysseldyke, Algozzine, and Thurlow (1980) studied 38 placement team meetings using both observation and video taping. Teams of researchers collected data on the effectiveness of the special education team process. Meetings varied considerably. Seldom was the purpose of the meeting stated; more time was spent describing needs than in generating intervention alternatives; roles were never clearly defined; parents were not asked if they understood the purpose of the meeting; parental input was occasionally requested usually to verify a position; language was at a level parents could understand only 27% of the time; least restrictive environment was never explicitly stated; 81% of the meeting time was spent in trying to relate data to the problem; everyday data on classroom performance was considered in addition to psychometric data; and decisions were made in 88% of the meetings but the researchers were unable to ascertain who made the decision or the specific nature of the decision. Almost half the time in meetings was spent discussing assessment information. Regular classroom teachers participated very little.

Post meeting views of the participants were that presenting data and making comments on data were the most frequent activities in which participants engaged; data factors were believed to have the greatest influence on the outcome of the team meeting; child characteristics were believed to have the least impact; participants were satisfied with the outcome and felt they were an important part of the meeting. Yet over 65% of the participants did not change their view of the child as a result of the meeting. The authors proposed:

> It appears the meeting is not a place for making decisions, but rather for presenting information regarding decisions as the rationale for them. (p. 82)

In another study, Ysseldyke, Algozzine, and Richey (1982) asked 223 professionals from a broad spectrum of disciplines and experience to indicate their expectations for the percent of children from different groups who might evidence various conditions. Expectations were compared to currently available estimates and actual data. Estimates for minority children who were EMI, LD, or speech impaired were two to eight times higher than actual incidence figures. Expectations for the number of minority and low SES children in the three disability areas were twice as high as those for girls and high SES children. The authors questioned whether decision makers were influenced by their own preconceived notions in making placement and classification decisions.

Ysseldyke and Foster (1978) showed 75 elementary teachers a 12-minute video tape of a normal fourth grade boy after which they were given a 23-item behavior checklist to rate the child on academic skill, perceptual motor development, activity level, and personal social adjustment. There were two phases of the study. In phase I, expectancy phase, before seeing the video tape, subjects were asked to rate a hypothetical child whom they were told was either normal, LD, or EI. Thus, baseline data were gathered. In phase II, halo effect, after seeing the tape, subjects were asked to rate the child they had seen. The teachers did rate the child differently depending on which label they'd been assigned. Those who had been told the child was LD or EI rated the child more negatively than those who were told the child was normal even though the child everyone saw was normal.

In their summary of all of the research on identification/classification done at the Institute, Ysseldyke and Thurlow (1983) discussed the research done specifically on decision making. They maintained the referral statement was most influential to decision makers; both objective and subjective factors had influence; and achievement measures were the most influential of all objective test data.

Ysseldyke (1983) believes teams function as a search for pathology and are accurate about half of the time. He is convinced that teachers refer students who bother or disturb them and they usually attribute problems to home and

family or a within-student deficit. Less than 2% of teachers feel problems are due to inadequate instruction or a school system problem. Ysseldyke urges that more time be spent in generating alternative service options during team meetings and that inservice training be provided for teams so that agendas are clearly stated, procedures are organized, and all members participate and use relevant data (p. 230-231). Thurlow, Christenson, and Ysseldyke (1983) agree.

Boucher (1981) studied decision making based on attribution theory that sees the individual as an information seeker and processor who tries to reduce ambiguity when perceiving others. One hundred twelve elementary teachers, both regular and special education, read a hypothetical three-page case report of a 10-year-old boy. The boy was described as having a severe vs. a mild handicap, label stated vs. unstated, and EI or LD appropriate characteristics.

If the child was described as having a severe handicap, 73.2% concluded he was LD or EI. If mild, 41.5% designated a handicap. If given the EI information and EI label, 5% chose LD, but if given LD information and label, 40% chose the EI label. Boucher deduced that attribution theory may be most relevant to type of information rather than amount. After reading the report, subjects were given three minutes to write down everything they could remember about it. Of the 59 subjects who read a report with a label stated, more

recalled the EI than the LD label. Of the 53 subjects who read unlabeled reports, none wrote a label during the three-minute recall. In the author's opinion, teachers do not blindly respond to a label.

Reiss and Szyszko (1982, 1983) explored whether or not certain diagnostic information "overshadows" other information. They learned this indeed was the case. When psychologists were given information about a client with both psychopathology and mental retardation, the mental retardation negated the need to deal with the psychopathology. Subjects attributed the emotional problems to intellectual deficiency. In the authors' opinion:

> Bias will not necessarily change as a result of experience because it is almost always possible to interpret experience as consistent with a stereotyped belief . . . . Experience may only give more practice in being biased. (1983, p. 400)

Smith and Knoff (1981) investigated how home and school history (A), WISC-R results (B), AAMD behavior profile (C), and Daberon, Bender, and Goodenough (D) results influenced 11 school psychology and 19 special education graduate students at Syracuse when given a hypothetical case study. Half the group was given information in ABCD order and half was given information in ACBD order. Subjects were asked to make a placement decision on a five point scale--(1) Trainable Mentally Impaired (TMI), (2) TMI/EMI, (3) EMI, (4) 1/2-day resource room and 1/2-day regular room, and (5) full-day regular room. Results showed no significant difference between special education teachers and school psychologists

and no differences between giving IQ or behavior profile information first. However, there was a significant effect for amount of information and a significant interaction between amount of information and order of information. IQ scores had a rigidifying effect and altered placement downward. No matter when IQ was presented, it precluded further variability in problem solving. In the author's opinion, IQ still carried more weight than adaptive behavior.

In a related study, Knoff (1983) assessed the importance of 16 types of diagnostic information to 20 school psychology students, 20 special education students, 20 school psychology practitioners, and 20 special education practitioners. In this study, classroom observation was rated most important and language ability was second in importance. SES was not important, and there were no differences between psychologists and special educators. In his judgment, this research upheld the position that IQ is <u>not</u> of paramount importance. However, this study differed from the previous study in that subjects in this study rated traits in isolation. They were not rating a child, hypothetical or real.

Reschly and Lamprecht (1979) were interested in ascertaining the influence of a label on teacher expectations. To do this, they asked 36 teachers who were graduate students to view a video tape after being told the child being observed was either gifted (G), normal (N), or EMI. The child the teachers saw performed 90 tasks from the WISC-R

and Peabody Individual Achievement Test, two/thirds of which he had been coached to answer correctly. Teachers were asked to make four IQ predictions that occurred (1) prior to viewing the tape, (2) after one 10-minute segment, (3) after two 10-minute segments, and (4) after three 10-minute segments. Results showed that the overall effects of labeling were significant and the interaction between label and length of time was significant. The initial prediction before seeing the video tape gave evidence of a large expectancy effect. After brief viewing of the tape, there was still some effect, but after 30 minutes, there was almost no expectancy effect. The authors suggested that teachers are not overly influenced by labels, if they have had the opportunity to see the child.

Margaret Potter (1982) conducted a study in which 223 school professionals who had participated in at least two special education placement meetings took part in a simulation exercise where they were asking to receive a referral, assess the student, and decide eligibility and classification. All of the assessment data reflected average pupil performance. Yet, 51% indicated the child was eligible and 61% indicated an LD, EMI, or EI label was appropriate. In 22 instances, a child was designated for one of the labels after being declared ineligible. Of 114 professionals who found the child eligible, 15% found no category for him/her. Only 7% of the participants recognized that there was no reason to label the child. Potter determined that there was

considerable confusion on eligibility and classification that was unrelated to role or specific level of knowledge. This group of professionals reflected the common tendency to label a student LD when there was no evidence to indicate another handicap, according to Potter.

Several other research studies have been done specifically related to teams. Yoshida, Fenton, Maxwell, and Kaufman (1978) sent 1536 questionnaires to team members, 1474 of which were returned. Professionals were asked to rate how much they participated in team meetings and how satisfied they were with their participation. The authors recognized a positive relationship between role and participation and between participation and satisfaction. Within a role, the magnitude of participation affected satisfaction. Many members perceived themselves as passive. Regular education teachers participated the least and were the least satisfied; school psychologists perceived themselves as high in participation and satisfaction. Instructional personnel, both general and special education teachers, appeared to be the most disenfranchised in spite of the fact that they are expected to implement the Individualized Educational Program (IEP). The authors advised school administrators to try to increase teacher participation if they want acceptance of and commitment to implementing the IEP.

Kehle (1980) contrasted the team approach to placement with the traditional unilateral placement by school psychologists. He studied the social adjustment of children

placed by both methods and found that the team approach did not enhance special education students' social integration into normal educational settings. However, he did not deal with academic progress nor did he deal with the satisfaction issues mentioned by Yoshida.

Ferrazzara (1983) investigated areas of agreement and disagreement among child study team (CST) members (28 teachers, 25 LD teacher consultants, 24 school psychologists) in New Jersey in their appraisal of children. Two case studies were sent to the team members who were then asked to label the child, provide an educational prescription, and recommend placement. Independent variables related to their decisions were professional role, teaching experience, observation time, highest degree, and teacher participation at CST meetings. Her results indicated a significant difference among type of respondent in that some school psychologists did not agree with other professional educators. There were significant differences between respondents with some or no teaching experience. Namely, school psychologists with no teaching experience did not agree with others. However, there were no significant differences among teachers who participated and those who did not participate in CST meetings. Ferrazzara interpreted these results to mean that psychologists based their decisions more on IQ and achievement tests while teachers relied more on functional learning and social maturity. Having teaching experience

was important. Psychologists without it were not in agreement with other team members.

Bloom (1980) conducted a participant observation study of team meetings in an urban setting in the East. For eight months he observed placement meetings. He perceived many factors operating which were unwritten. In his opinion, parents were not often included in decision making; planning strategy was usually done in advance of meeting parents; assessment information and courses of action were "negotiated" by professionals with vested interests; biological and family off-the-record information was used to help determine placement; and administrators exerted a powerful gatekeeping function by reviewing prospective placement in self-contained settings.

What most concerned Bloom was the disenfranchisement of parents during the whole process in spite of the fact that the letter of the law was followed. He didn't think pleas for greater sensitivity on the part of school officials would be sufficient to bring about change. He suggested three courses of action: (1) Regulations governing parent involvement should be reexamined and loopholes plugged. (2) Training programs should reexamine assumptions, especially the assumption that professionals are better able to decide what is best for children than are their parents. (3) Parent groups and advocacy groups should be expanded and advocacy should start at the beginning of a case rather than

entering after a serious problem has already developed (pp. 190-195).

Holland (1980) summarized the decision making process in less than favorable terms when he stated that judges respond in predictable ways. They tend to resort to simplified decision strategies, the order and manner in which information is received is an important determinant, and there are many variables we know nothing about that influence decisions. Furthermore:

> The validity of judgments tends to be low, and increasing the amount of information does not increase validity. Validity is not related to the experience of judges nor to the confidence with which judgments are made. (p. 552)

To correct the situation, he suggested:

(a) More effective communication among school personnel;
(b) increased time, staff, and program alternatives;
(c) better organization of each process;
(d) improved staff deployment; and
(e) appropriate inservices for the classroom teacher. (p. 553)

Summary

The literature pertaining to the factors that influence professionals to label students either LD or EMI has been reviewed. It is apparent from the literature that racial and ethnic minority students of low SES have historically been overrepresented in EMI classes. In fact, this overrepresentation is still of concern to the Office of Civil Rights. Whether this overrepresentation is due to social/cultural factors residing in the school or to clinical/

medical causes has not been decided. Evidence to support both theories has been presented. There have been efforts to reduce overrepresentation by litigation as shown by court cases discussed in this review that challenge the special class placement of low SES and racial minority students. The appropriate assessment of adaptive behavior as it relates to the EMI label is also fraught with controversy. That issue has been discussed in this review.

The literature has also shown that we need to more clearly define and operationalize the LD definition. The imprecise nature of the definition makes it possible to include many children who need help but who do not seem to fit into existing special education categories. In spite of the fact that federal and state guidelines to qualify as learning disabled appear to be specific, in practice they are open to wide interpretation. For example, the issues surrounding the use of verbal/performance IQ discrepancy as a criteria for LD eligibility were discussed in detail.

A number of research studies were reviewed, the majority of which supported the position that minority status and low SES led to special class placement. The literature in the area of decision making in special education that has been reviewed has shown it to be, for the most part, in a dismal state. It is not clear how or why decisions are made. The process itself needs clarification. It is especially important to clarify the process of team

decision making, including the role of parents as team members.

Of the many factors involved in choosing the LD or EMI label, the present study investigated only four--adaptive behavior, verbal/performance IQ discrepancy, IQ, and SES. These four have been examined in the literature review. It has been shown that even though impairment of adaptive behavior is required by law for a student to qualify as EMI, there is no universally agreed upon standard for judging impaired adaptive behavior. However, the AAMD Adaptive Behavior Scale, reviewed herein, is commonly used for this purpose. A necessary condition for labeling a student LD is severe discrepancy between intellect and achievement. The literature has shown that there is a noteworthy lack of agreement on how to measure severe discrepancy, but that verbal/performance IQ discrepancy as assessed by an intelligence test is commonly used.

IQ scores used to designate a student LD or EMI were more definitively stated in the literature. An IQ below 70 is widely accepted as the standard for qualifying a student as EMI. The influence of low SES on the decision to label a student EMI has also been well documented in this review. Very often low SES and/or minority status result in the EMI label.

The present study focussed on the relative importance of adaptive behavior, verbal/performance IQ discrepancy, IQ, and SES, all of which have been discussed in this literature

review, to the decision maker. The research questions addressed in this study include the following: Do adaptive behavior and verbal performance IQ discrepancy, even though not easy to define or assess, influence Lansing special educators toward one label or another? How much influence does IQ have? Even though low SES has been shown to be closely correlated to the EMI label nationwide, is it closely correlated in Lansing? Are there any particular characteristics of the professionals such as years of experience, role, educational level, professional development activities, or number of decisions in which they have been involved that have an impact on decision making? In Chapter III the methodology employed to answer these questions is explained.

CHAPTER III

METHODOLOGY

Introduction

The factors that influence a professional to choose between the Learning Disabled (LD) and Educable Mentally Impaired (EMI) labels were of concern in this study. Of the numerous factors that influence a labeling decision, four were chosen for investigation. According to the Michigan Special Education Rules, three of these factors, adaptive behavior, severe discrepancy, and IQ should indicate one label or the other but not both. The fourth factor, socio-economic status (SES), should be irrelevant to the labeling decision.

The purpose of this study was to discern how these factors were related for Lansing professionals when they chose between the LD and EMI labels, and to note particularly the effect of SES on their decisions. In addition, certain demographic characteristics of the staff including years of experience, role, educational level, professional development activities, and number of decisions in which they have been involved were considered to see whether or not, and how, they influenced the labeling decisions.

Population

Lansing is a medium-sized mid-Western city with an experienced and professional special education staff of 248 people. The entire staff was asked to participate in the present study. At the time this study was done (April, 1985), the special education staff consisted of 145 teachers, 18 teacher consultants for whom a primary responsibility was evaluating students, 18 speech therapists, 13 psychologists, 10 social workers, 8 physical therapists, 10 occupational therapists, 19 program consultants who performed quasi-administrative duties, and 7 administrators. All of the special education personnel categories mentioned in the Michigan rules are represented in Lansing. Lansing operates with a Multidisciplinary Evaluation Team (MET) for assessment of children, and eligibility and placement decisions are made by an Individual Educational Planning Committee (IEPC).

Comprehensive programs covering the full continuum of services age 0 to 26 for all disabilities mentioned in the Michigan Rules (except autism, though children labeled autistic are served in other Lansing programs) are offered by the Lansing Special Education Department. These programs are housed in settings that range from full time integration of students into general education programs (students receive teacher consultant help only) to special education rooms in general education buildings, to a separate facility for Trainable, Severely, and Multiply Impaired students.

Programs in the low incidence categories serve children from the three counties surrounding Lansing. The majority of elementary children are served in "resource rooms" housed within general education buildings where children of mixed high incidence categories (EMI, LD, EI) are seen for varying amounts of time in a special education room by a special education teacher as determined by the IEPC. The majority of secondary students are served in the general education high schools in a departmentalized setting where they may attend any combination of special and general education classes that the IEPC determines meets their needs.

The staff in Lansing is diverse and is composed of both males and females at all levels, minority and majority ethnic groups, a wide range of ages, educational levels, and years of experience. Professional growth and development are actively encouraged by means of contractual obligations calling for a specified amount of inservice every year. There are also numerous opportunities to serve on curriculum development and advisory committees. These committees have a great deal of power in recommending curriculum to the administration. Salary incentives are given for taking college level course work. The salary scale contains 12 steps at the bachelor of arts, bachelor of arts plus 23 credits, master of arts, master of arts plus 45 credits, and doctoral levels. The questionnaire that all staff members received will be described in the following section.

Questionnaire

Design and Development

The opinion of each of the 248 members of the Lansing special education staff was desired in order to obtain judgments from professionals engaged in many different roles and with many different kinds of experiences. Since an individual opinion was desired, rather than a group decision, and since an entire staff was to be surveyed, it was decided that the most feasible route to obtain data was to administer a questionnaire.

Once a questionnaire was decided upon, its design was the next problem. Should information be presented to participants in the form of lists of different combinations of traits or in the form of hypothetical case descriptions? Hypothetical case descriptions were chosen as a vehicle for obtaining responses from participants because reading about students is a familiar activity in which they engaged frequently, and because reading case descriptions approached the real life situation. Several other decisions were made: The case descriptions would use student names appropriate for either sex because sex was not investigated in this study, and children would be portrayed as first, second, or third graders because the majority of special education students are identified in the early grades.

After examining the Michigan Rules for LD and EMI eligibility, three variables--adaptive behavior, severe discrepancy, and IQ--were chosen because ideally they point

toward one category or the other. SES was chosen to see whether or not it had an impact on the decision even though it is prohibited in the rules from being a sole determinant.

The presence or absence of each of the three variables indicated in the Rules points toward one label or the other. For example, impaired adaptive behavior is necessary to be labeled EMI, but is omitted from the definition of LD. Similarly, a wide discrepancy between achievement and ability is necessary to be labeled LD, but is omitted from the EMI definition. Also, a low IQ is necessary to be labeled EMI, but an average IQ is necessary to be labeled LD. Thus each factor could be viewed as high (present) or low (absent). SES could also be viewed on two levels--high or low. When each of the two levels, high or low, of the four variables were combined in all possible ways, 16 case descriptions resulted. By using 16 cases, each factor occurred equally frequently with every other factor. See Figure 5 for Matrix of Factor Combinations.

Demographic Data

The questionnaire distributed to Lansing professional special education staff members was divided into two major sections. (See Appendix A). The first section consisted of eight questions requesting demographic data including the respondent's professional role, number of years in special education, educational level, level of employment, number of IEPCs participated in during April, 1985, professional development activities, and year of last college course. It

Case Name	Variables			
	Adaptive Behavior	V-P IQ Discrepancy	IQ	SES
Pat	L	L	L	L
Gerry	L	L	L	H
Lyn	L	L	H	L
Lee	L	H	L	L
Jamie	H	L	L	L
Chris	L	L	H	H
Tracy	L	H	L	H
Kelly	H	L	L	H
Aubrey	L	H	H	L
Jackie	H	L	H	L
Marty	H	H	L	L
Lou	L	H	H	H
Lauren	H	L	H	H
Jody	H	H	L	H
Robin	H	H	H	L
Dale	H	H	H	H

H = High level of factor
L = Low level of factor

Figure 5. Matrix of Case Description Factor Combinations

was felt that there might be differences in responses to case descriptions based on some of these characteristics.

As has been shown in the literature review, professionals employed in different roles often respond differently to labeling questions (Ferrazzara, 1983; Thurlow et al. 1983; Yoshida et al., 1978). It was postulated that professionals entering the field later might be less likely to be influenced by SES than would those who had been working for many years. If there were trends in responses that were tied to demographic variables, then this information would be very helpful in reeducating practitioners already in the field.

Case Descriptions

The second part of the questionnaire consisted of the 16 hypothetical case descriptions for which staff members were asked to answer two questions each: (1) On a continuum of 0 to 10, what is the likelihood that this student is Learning Disabled? (2) On a continuum of 0 to 10, what is the likelihood that this student is Educable Mentally Impaired? Thus 32 responses were requested. A detailed explanation of each of the four variables in the case descriptions follows.

Adaptive Behavior

The first independent variable in the case descriptions was adaptive behavior. Adaptive behavior was included because one requirement of the Michigan Rules for a student to be determined EMI, but not LD, is impairment in adaptive

behavior (R 340.1705 (1) (d)). In its Team Operations guidelines (1982), Lansing defines adaptive behavior as:

> An individual's ability to perform special roles appropriate for a person his/her age and gender in a manner which meets the expectations of home culture, school, neighborhood, and other relevant groups in which he/she participates . . . . The evaluation . . . includes consideration of development in non-academic areas. (p.9)

As has been demonstrated in the review of the literature on adaptive behavior scales, there is no general consensus in the field on what constitutes a "good" measure of adaptive behavior. Because the American Association on Mental Deficiency (AAMD) Adaptive Behavior Scale is often used in Lansing to assess adaptive behavior, items from this scale were used in the case descriptions. Lambert (1977, 1979), previously discussed, has shown this scale has validity for differentiating EMI and regular class pupils, especially if sex and ethnic status are not considered. Neither sex nor ethnic status were investigated in this study.

The scale consists of a number of "domains," some samples of which are independent functioning, physical development, economic activity, language development, numbers and time, prevocational activity, self direction, responsibility, socialization, aggressiveness, antisocial vs social behavior, rebelliousness, and trustworthiness. The domains are combined to form five "Factors." Items from Factor 1, Personal Self-Sufficiency, were not used because they deal with using eating utensils, toilet habits, bathing

and washing hands and face. It would be very unlikely that a child would reach 2nd or 3rd grade in a general education classroom without reasonably appropriate eating and bathroom habits. Items dealing with unusual personal habits and mannerisms were also omitted because they could not reasonably be expected to appear in a general education classroom. Items dealing with what is typically thought to be emotionally impaired behavior such as temper tantrums, self stimulating behaviors, and excessive verbal and physical abuse directed toward others were avoided also.

Items from the Factors called Community Self-Sufficiency, Personal-Social Responsibility, and Social Adjustment (in part) were used. Statements based on actual items in the scale which show high (appropriate) or low (inappropriate) adaptive behavior were randomly included in the case descriptions. The actual statements used in the case descriptions may be found in Appendix B.

Verbal/Performance IQ Discrepancy

The second independent variable in the case descriptions was verbal/performance IQ discrepancy. Verbal/performance IQ discrepancy was used in the case descriptions to indicate the severe discrepancy between achievement and ability that is required by the Rules to qualify as LD. As mentioned before, there is little agreement among professionals about how to operationalize severe discrepancy. Therefore for the hypothetical case descriptions, severe discrepancy was indicated by a difference of 15 or more

points between the verbal and performance IQs of the Wecshler Intelligence Scale for Children-Revised (WISC-R). This criteria was chosen in accordance with Epps, Ysseldyke and Algozzine (1983) who found that a 15 point difference between verbal and performance IQs was a commonly used indicator of learning disabilities when they categorized definitions currently in use by professionals. From 9 to 15 points were used depending on the level of probability chosen in the study they were reporting. At the .01 level, 15 points was used. Kaufman (1979) and Banas (1984) also agreed the 15 point discrepancy was commonly used even though both questioned its appropriateness as has already been discussed in the literature review.

Additionally, the 15 point difference was easily seen by a professional who was not a psychometrician; it allowed the case descriptions to be uniformly written; and in Lansing, if the WISC-R was used, verbal and performance IQs were almost always included in the psychological report. It must be pointed out that no effort was made in this study to use the "best" or the "right" definition for learning disabilities. Rather, the aim was to choose a common definition with which most professionals would be familiar. Also, in all case descriptions, performance IQ was higher than verbal IQ in order not to introduce an additional uncontrolled variable into the study. The verbal and performance IQ discrepancy scores used may be found in Appendix B.

IQ

The third independent variable indicated in the case descriptions was IQ. According to Michigan Special Education Rule 340.1705 (1) (a), to be labeled EMI a student must show "development at a rate approximately two to three standard deviations below the mean as determined through intellectual assessment" which translates in Lansing to a full scale IQ below 70. To be labeled LD according to Michigan Rule 340.1713 (2), a "severe discrepancy between achievement and intellectual ability" must be shown. Intellectual ability, or potential, is assumed to be near normal which in Lansing means an IQ usually above 75.

For the questionnaire, the Wechsler Intelligence Scale for Children--Revised (WISC-R) was used to indicate IQ because it is commonly used in Lansing; it is familiar to the staff; and it contains verbal and performance scales that could also be used to show verbal/performance IQ discrepancy in the case descriptions. The high scores in the case descriptions were 84 and above and the low scores were all below 70. An effort was made to keep the scores within each category comparable. The scores used in the case descriptions may be found in Appendix B.

Socioeconomic Status

The fourth independent variable in the case descriptions was socioeconomic status (SES). There are a number of ways to indicate SES, many of which were discussed in the literature review. For this questionnaire, SES was

indicated directly by occupation and indirectly by mentioning some of the goods and services that may be purchased by virtue of attaining higher income levels. Occupations were based on data from the US Bureau of the Census Earnings by Occupation and Education, 1980 Census (1984). Upper middle class SES was indicated by professional/managerial occupations requiring four years of college. Low SES was indicated by occupations that yielded wages below the poverty level as defined by the Census Bureau. In 1980, for a family of four persons, a yearly income of less than $7,412 was considered the poverty threshold (Earnings by Occupation and Education, 1984). As might be expected, the poverty threshold varies with the number of family members. Also, it should be pointed out that the Census Bureau data specifies occupation by sex, and in almost all cases females earn less than males in the same jobs. Therefore, an occupation below poverty level for a female head of the household might be above poverty level for a male. The statements indicating high and low SES may be found in Appendix B.

Pilot Study

In an effort to assess how the questionnaire would be received, a draft form was administered to several special education personnel from another district. Their suggestions were taken into account in making revisions. One modification suggested was to change the scale from a continuum of 0 to 100 to 0 to 10 so that there would not be the tendency to have the two scores total 100%.

A larger problem was their discomfort with making a labeling decision based on such sketchy information. To help alleviate this distress, several sentences were added to the directions specifically recognizing this problem. It was noted that these are not real children being discussed, and that as professionals we all understand we would not make decisions about real children based on one paragraph of information.

An additional concern was the lack of reference to achievement in the case descriptions. This was dealt with by including a statement in the directions that respondents should assume all students were achieving significantly below grade level. The statement was left open ended because, in the case descriptions, grade level varied from first to third. In Lansing, a first grader needs a one year discrepancy between ability and achievement to qualify as LD while a second or third grader needs a one and one half year discrepancy.

Achievement was not included as a variable in the case descriptions because adding a fifth independent variable would have made it necessary to have more than 16 case descriptions in order to maintain the counterbalanced design. It was felt that 16 case descriptions were as many as a participant could be expected to judge in one questionnaire.

Data Collection

The questionnaire was sent to each staff member, by name, through interdepartmental mail along with a cover letter that described a drawing for prizes for those who returned the questionnaire. (See Appendix C.) In addition, personal notes were sent to 30 staff members asking them to encourage others to return the questionnaire.

Originally the questionnaire was to be completed during staff meetings, but during the pilot study, participants expressed a need to spend more time finishing it than could be allotted during a staff meeting. In the cover letter, participants were given two weeks to return the questionnaire. However, at the end of two weeks, a reminder was sent and the period extended another week in hopes of getting a better rate of return. No names were used on the questionnaires to protect participants who had a need for anonymity. However, in many cases this was not a concern of the participant and questionnaires were returned by hand.

Data Analysis

Data were analyzed by multivariate analysis of variance--repeated measures design--because the relationships among several variables were of interest. Different combinations of the student variables as well as the degree of relationship were investigated. The four independent student variables--adaptive behavior, verbal/performance IQ discrepancy, IQ, and SES--were to be related to the decision

to label a student LD and/or EMI as shown on a continuum of 0 to 10. In addition, demographic characteristics of the decision maker including number of years of experience, role, educational level, professional development activities, and number of labeling decisions in which the individual had been involved were compared to the two labeling decisions.

The statistical technique of multivariate analysis of variance (MANOVA) was used because there were two dependent measures (LD and EMI labeling decisions) to be related to the four independent student variables in a within-subjects design. The demographic data consisted of both continuous and discrete variables to be related to the labeling decisions in a between-subjects design (Pedazur, 1982; Kerlinger, 1973). MANOVA was chosen because according to Borg and Gall (1983), "multivariate analysis of variance is a statistical technique for determining whether several groups differ on more than one dependent variable" (p. 554). In chapter IV, the results of the data analysis will be discussed.

CHAPTER IV

ANALYSIS OF RESULTS

Introduction

The purpose of this study was to investigate the influence of adaptive behavior, verbal/performance IQ discrepancy, IQ, and socioeconomic status (SES) on the decision to label a student Learning Disabled (LD) or Educable Mentally Impaired (EMI). In addition, the effect of several demographic variables including number of years as a special educator, role, educational level, professional development activities and number of decisions in which respondents have been involved on the labeling decisions was investigated.

In this chapter, the results of the data from the questionnaire distributed to the Lansing special education professional staff will be analyzed. The analysis will be divided into two sections: (1) analysis of the results of the demographic data, and (2) analysis of the results of the case descriptions. Of the 248 questionnaires sent to the professional staff in the Lansing School District Special Education Department, 154 were returned for a rate of return of 59.7%. However, because some of the questionnaires were completed incorrectly, this analysis contains data from 147

questionnaires or 59.3%. Of the 147 returned questionnaires, there were instances where isolated items were not answered. These are reported as missing cases.

Analysis of Demographic Data

The Statistical Package for the Social Sciences (SPSS, Nie et al., 1975) was used to analyze data on the questionnaires. The SPSS Condescriptive and Crosstabs sub programs were used to generate summary information about the demographic data.

The mean number of years as a special educator in Lansing was 12.178 years with a standard deviation of 5.597 and a minimum of one year and a maximum of 26 years. The mean number of years in the present role was 7.082 with a standard deviation of 5.215 and a minimum of one year and a maximum of 25 years. The actual number of years in special education for each staff member is shown in Table 1. Slightly over half the staff, 55.8%, has been in special education for 6 to 15 years.

The roles occupied by the respondents in this study are shown in Table 2. Table 2 also shows the number of questionnaires returned and not returned by role. Program consultants (78.9%) and teacher consultants (72.2%) had the greatest percentage of return with classroom teachers next (59.0% and 67.5%). Psychologists and social workers (about 30% each) had the lowest rate of return.

TABLE 1

Number and Percent of Respondents in Special Education by Number of Years

No. of Years	No. of Staff	% of Staff
1 to 5	21	14.3
6 to 10	36	24.5
11 to 15	46	31.3
16 to 20	34	23.1
21 to 26	9	6.1
Missing	1	.7
Totals	147	100.0

TABLE 2

Returned and Not Returned Questionnaires
by Role of Respondents

Role	Returned		Not Returned	
	No.	%	No.	%
Teachers, High Incidence	62	59.0	43	41.0
Teachers, Low Incidence	27	67.5	13	32.5
School Psychologists	4	30.8	9	69.2
Teacher Consultants	13	72.2	5	27.8
Speech Therapists	9	50.0	9	50.0
Program Consultants	15	78.9	4	21.1
Administrators	3	42.9	4	57.1
Social Workers	3	30.0	7	70.0
Physical Therapists	4	50.0	4	50.0
Occupational Therapists	7	70.0	3	30.0
Totals	147		101	

For this study, classroom teachers were divided into the two categories of "high incidence" and "low incidence." "High incidence" teachers were those certified and teaching in the high incidence categories of Educable Mentally Impaired, Emotionally Impaired, Learning Disabled, and Preprimary Impaired. "Low incidence" teachers were those certified and teaching in the low incidence categories of Physically or Otherwise Health Impaired, Hearing Impaired, Visually Impaired, Severely Mentally Impaired, Severely Multiply Impaired, and Trainable Mentally Impaired.

Because there were so few people in some roles, categories were collapsed into five role groups for the data analysis. The groups were (1) high incidence teachers, (2) low incidence teachers, (3) support personnel (psychologists, social workers, speech therapists, physical therapists, and occupational therapists), (4) teacher consultants, and (5) administrators (administrators and program consultants). Groups were formed in this way for several different reasons. High and low incidence teachers were separated because they have very different training and experience. Low incidence teachers were not expected to be as familiar with the LD and EMI categories that were of interest in this study as were high incidence teachers. Support personnel were grouped together because they perform similar functions over a broad range of disabilities and ages. Teacher consultants formed a separate group because, in Lansing, they are part of the diagnostic team and

therefore they work with a broad range of ages and levels of children. Program consultants and administrators were grouped together because program consultants function more like administrators than teachers. Even though they are not administrators, they regularly chair IEPC meetings and assist in making decisions about programming, and staff and facility allocation.

Once role groups were formed, a chi-square analysis was computed to determine whether or not any particular role did not return questionnaires in expected proportions. The results are shown in Table 3. At the .05 level (the level of significance chosen for this study), a value of 7.903 with 4 degrees of freedom was not sufficient to show a significant relationship between questionnaires returned and not returned by role. A value of at least 9.488 was required. Therefore, there was no significant difference in questionnaires returned and not returned by role.

Table 4 reports the educational level including number and percentage of respondents at each level. Four educational levels--bachelor of arts, master of arts, master of arts plus, and educational specialist or above--were used. Master of arts plus was included as a separate category because, in Lansing, the college or university course credit requirement to reach this step on the salary scale is equivalent to a second master's degree. Also, it is the terminal

TABLE 3

Relationship Between Questionnaires Returned and Not Returned by Role of Respondents

		High Incidence Teachers	Low Incidence Teachers	Support Personnel	Teacher Consultants	Administrators	Total
Returned	(O)	62	27	27	13	18	147
	(E)	(62)	(23.7)	(34.9)	(10.7)	(15.4)	
Not Returned	(O)	43	13	32	5	8	101
	(E)	(42.8)	(16.3)	(24)	(7.3)	(10.6)	
Totals		105	40	59	18	26	248

$X_2^2 = 7.903$

TABLE 4

Number and Percent of Respondents by Educational Level

Educational Level	No. of Staff	% of Total
BA	48	32.7
MA	64	43.5
MA+	30	20.4
EdS or above	5	3.4
Total	147	100.0

step on the salary scale for most employees. Almost 64% of the staff was at the master's and master's plus levels.

Table 5 lists the level, including number and percentage, at which respondents work. If preprimary and elementary were combined, then the elementary and secondary levels were almost equal and comprised approximately 80% of the staff. The other 20% (approximately) worked at all levels. The category "all levels" included staff members such as diagnosticians, administrators, some program consultants and some low incidence teacher consultants whose responsibilities spanned more than one level.

On the questionnaire, respondents were asked to indicate the professional development activities in which they engaged. The total number of activities reported by respondents was 313 because almost everyone participated in

TABLE 5

Number and Percent of Respondents
by Level of Employment

Level	No. of Staff	% of Total
Preprimary	12	8.2
Elementary	48	32.6
Secondary	62	42.2
All Levels	25	17.0
Total	147	100.0

more than one activity. Attending workshops and inservices and reading professional books and journals were activities reported as engaged in most frequently. In addition, many respondents had taken college courses recently. Only four people reported no professional development activities.

Even though professional development activities was mentioned in each of the five hypotheses, it will not be discussed with each hypothesis because no tests were conducted relating professional development activities to the labeling decisions. Comparison tests were not performed because everyone, with the exception of four people, engaged in at least two professional development activities. Many respondents indicated professional activities such as teaching courses, presenting workshops, and serving on professional committees in addition to the choices given on the

questionnaire. Because so many people participated in different combinations of activities, no comparisons were possible.

Table 6 lists the number of IEPCs and the number of respondents who attended that number of IEPCs during the month of April, 1985. The majority of respondents (70.1%) attended six or less IEPCs during the month. Eighteen people (12.2%) attended from 15 to 41 IEPCs during the month.

TABLE 6

Number and Percent of Respondents by Number of IEPCs Attended in One Month

Number of IEPCs	Number of Staff	% of Total
0 to 5	103	70.1
7 to 14	26	17.7
15 to 41	18	12.2
Total	147	100.0

In order to find out who attended IEPCs, a cross tabulation was done for role and number of IEPCs as shown in Table 7. The great majority of staff members, over 70%, attended from 0 to 6 IEPCs during April, 1985. Over two-thirds of those attending 0 to 6 IEPCs were teachers. The group that participated most heavily in IEPCs, over 15, was Administrators. This group included program consultants who chair IEPCs as one of their major job responsibilities.

TABLE 7

Crosstabulation of Role of Respondent and Number of IEPCs Attended in One Month

Role	Number of IEPCs			Row Total
	0 to 6	7 to 15	Over 15	
High Incidence Teachers				
	46	13	3	62
Row %	74.2	21.0	4.8	42.2
Column %	44.7	41.9	23.1	
Low Incidence Teachers				
	25	2	0	27
Row %	92.6	7.4	0	18.4
Column %	24.3	6.5	0	
Support Personnel				
	18	8	1	27
Row %	66.7	29.6	3.7	18.4
Column %	17.5	25.8	7.7	
Teacher Consultants				
	8	5	0	13
Row %	61.5	38.5	0	8.8
Column %	7.8	16.1	0	
Administrators				
	6	3	9	18
Row %	33.3	16.7	50.0	12.2
Column %	5.8	9.7	69.2	
COLUMN TOTAL	103	31	13	147
COLUMN %	70.1	21.1	8.8	100.0

"Number of decisions in which professionals have been involved" was mentioned in each of the 5 hypotheses. However, number of decisions corresponds to "number of IEPCs in which respondents participated." This factor was discussed in the previous section. This variable will not be analyzed in relation to each hypothesis because it has been shown to be so closely related to role. Rather, role will be analyzed for each hypothesis.

Table 8 shows the year in which the last college course was taken by each respondent. About 65% of the respondents have taken a course within the last three years.

TABLE 8

Number and Percent of Respondents by Year of Last College Course

Year	No. of Staff	% of Total
1961 through 1964	3	2.0
1970 through 1973	12	8.2
1974 through 1977	12	8.2
1978 through 1981	20	13.6
1982 through 1985	95	64.6
Missing	5	3.4
Totals	147	100.0

Because the majority of respondents took a course within the last three years, "year of last college course" was

divided into two categories--before and after 1982. To find out who was taking college courses, a number of crosstabulations were done. Table 9 shows the crosstabulation of year of course and role. Teachers, including teacher consultants, took most of the courses after 1982 while support personnel took more courses before 1982.

Table 10 shows the crosstabulation of year and course and educational level. People with MA degrees took most of the courses both before and after 1982. Table 11 shows the crosstabulation of year of last course and level at which the respondent was working. One hundred percent of the preprimary teachers took courses after 1982. For the other three groups, about two-thirds of the respondents took courses after 1982.

Table 12 shows the crosstabulation of year of last course and number of IEPCs participated in during April, 1985. IEPCs were divided into three categories--0 to 6, 7 to 15, and over 15. The 0 to 6 category contained the highest number of courses taken. Of these, most courses were taken after 1982. This group has previously been shown to be teachers. The above 15 group, most of whom were administrators and program consultants, was evenly divided before and after 1982.

From this information it is apparent that Lansing has a Special Education staff composed of professionals mostly at the MA and MA+ educational levels, most of whom have been

TABLE 9

Crosstabulation of Year of Last College Course by Role of Respondents

	High Incidence Teachers	Low Incidence Teachers	Support Personnel	Teacher Consultants	Administrators	Total
Number Before 1982						
	18	5	14	3	7	47
Row %	38.3	10.6	29.8	6.4	14.9	
Column %	29.0	18.5	56.0	25.0	43.8	
Number After 1982						
	44	22	11	9	9	95
Row %	46.3	23.2	11.6	9.5	9.5	
Column %	71.0	81.5	44.0	75.0	56.3	
COLUMN TOTALS	62	27	25	12	16	142

TABLE 10

Crosstabulation of Year of Last College Course
by Educational Level of Respondents

	BA	MA	MA plus	Ed.S. plus	Total
Number Before 1982					
	14	21	10	2	47
Row %	29.8	44.7	21.3	4.3	
Column %	29.2	35.0	34.5	40.0	
Number After 1982					
	34	39	19	3	95
Row %	35.8	41.1	20.0	3.2	
Column %	70.8	65.0	65.5	60.0	
TOTAL	48	60	29	5	142

TABLE 11

Crosstabulation of Year of Last College Course
by Employment Level of Respondents

	Level				
	Prepri-mary	Elemen-tary	Second-ary	All levels	Total
Number Before 1982					
	0	16	23	8	47
Row %	0	34.0	48.9	17.0	
Column %	0	34.8	37.1	34.8	
Number After 1982					
	11	30	39	15	95
Row %	11.6	31.6	41.1	15.8	
Column %	100.0	65.2	62.9	65.2	
TOTAL	11	46	62	23	142

TABLE 12

Crosstabulation of Year of Last College Course by Number of IEPCs Attended

	Number of IEPCs			
	0 to 6	7 to 15	Over 15	Total
Number Before 1982				
	33	8	6	47
Row %	70.2	17.0	12.8	
Column %	32.0	29.6	50.0	
Number After 1982				
	70	19	6	95
Row %	73.7	20.0	6.3	
Column %	68.0	70.4	50.0	
TOTAL	103	27	12	142

working for over 12 years. In addition, many of them regularly engaged in a number of professional development activities, and often this included taking a college course. The majority of professionals attended from 0 to 6 IEPCs during April, 1985.

Analysis of Case Descriptions

The SPSS subprogram MANOVA--repeated measures design (Nie et al., 1975) was used to analyze the case

descriptions. Each respondent was asked to make two independent decisions about each of the 16 case descriptions. Thirty-two decisions were made. The decisions were: (1) On a continuum of 0 to 10, what is the likelihood that this student is Learning Disabled? (2) On a continuum of 0 to 10 what is the likelihood that this student is Educable Mentally Impaired? Sixteen cases were used because each of the two levels of the four variables was combined in all possible ways with every other variable in a counterbalanced design as previously discussed and shown in Figure 5--Matrix of All Factor Combinations. For the analysis, cells were formed by grouping cases containing high and low levels of each of the four variables as shown in Figure 6.

The means for the high and low levels of each of the four independent variables were computed for each of the two dependent variables. Then the low mean was subtracted from the high mean for the learning disabled label and for the educable mentally impaired label. The cells formed are shown in Figure 7.

Thus, the eight categories of independent variables which were compared to themselves and to the demographic variables were: LD AD, LD VP, LD IQ, LD SES, EMI AD, EMI VP, EMI IQ, and EMI SES. Because the low mean was subtracted from the high mean, cases with negative ratings indicated that for a particular decision, LD or EMI, low cases were rated higher than high cases. If the mean was positive, high cases were rated more highly.

Adaptive behavior		Ver/Perf IQ discrepancy		IQ		Socioeconomic status	
High	Low	High	Low	High	Low	High	Low
Robin	Lee	Robin	Lyn	Robin	Jody	Jody	Robin
Jody	Tracy	Jody	Jacke	Lyn	Marty	Tracy	Marty
Marty	Lyn	Marty	Gerry	Jackie	Lee	Gerry	Lee
Jackie	Gerry	Lee	Jamie	Lou	Tracy	Lou	Lyn
Jamie	Lou	Tracy	Lauren	Lauren	Gerry	Lauren	Jackie
Lauren	Pat	Lou	Pat	Dale	Jamie	Dale	Jamie
Dale	Chris	Dale	Chris	Chris	Pat	Chris	Pat
Kelly	Aubrey	Aubrey	Kelly	Aubrey	Kelly	Kelly	Aburey

Figure 6. Cases Containing High and Low Levels of Each Variable.

Variable-High	Minus	Variable-Low	Equals	Cell
LD Adaptive Behavior High	-	LD Adaptive Behavior Low	=	LD AD
LD VP IQ Discrepancy High	-	LD VP IQ Discrepancy Low	=	LD VP
LD IQ High	-	LD IQ Low	=	LD IQ
LD SES High	-	LD SES Low	=	LD SES
EMI Adaptive Behavior High	-	EMI Adaptive Behavior Low	=	EMI AD
EMI VP IQ Discrepancy High	-	EMI VP IQ Discrepancy Low	=	EMI VP
EMI IQ High	-	EMI IQ Low	=	EMI IQ
EMI SES High	-	EMI SES Low	=	EMI SES

Figure 7. Eight Independent Variables by Cells.

Hypothesis 1

Among professionals there will be no significant differences in the tendency to be influenced by SES based on years of experience, role, educational level, professional development activities, or number of decisions in which they have been involved.

When data were analyzed in terms of the influence of demographic variables on the labeling decisions, no significant differences were found at the .05 level. For this study, the .05 level of probability was chosen as the level of significance throughout.

Years of Experience

The multivariate tests in Table 13 indicate that years of experience were not significant in the labeling decisions.

Role

The multivariate tests in Table 14 indicate that role was not significant in the labeling decisions.

Educational Level

The multivariate tests in Table 15 show that educational level was not significant in the labeling decisions.

Thus, Hypothesis 1, that the influence of SES on the labeling decisions is not affected by years of experience, role, educational level, professional development activities, or number of decisions in which professionals have been involved, is upheld. None of the demographic variables

TABLE 13

Tests of Significance for Totals Using Sequential Sums of Squares for Years of Experience of Respondents

Source of Variation	DF	Mean square	F	Significance of F
Within Cells	119	23.93462		
Years of Experience	2	46.51397	1.94338	.14774
(Corrected Total)	121	24.30783		
R-Squared =	.03163			
Adjusted R-Squared	.01535			

TABLE 14

Tests of Significance for Totals Using Sequential Sums of Squares by Role of Respondents

Source of Variation	DF	Mean square	F	Significance of F
Within Cells	118	24.28556		
Role	4	31.32089	1.28969	.27802
(Corrected Total)	122	24.51623		
R-Squared =	.04189			
Adjusted R-Squared	.00941			

TABLE 15

Tests of Significance for Totals Using Sequential Sums of Squares by Educational Level of Respondents

Source of Variation	DF	Mean square	F	Significance of F
Within Cells	119	24.98760		
Educational Level	3	5.81832	.23285	.87334
(Corrected Total)	122	24.51623		
R-Squared =	.00584			
Adjusted R-Squared	0			

had any influence on whether or not SES was a factor in the labeling decisions.

Hypotheses 2 and 3

Because Hypothesis 2 and Hypothesis 3 are so closely related, the same statistical tests pertain to both hypotheses and the same tables apply in all cases. Therefore, Hypotheses 2 and 3 will be discussed together.

Hypothesis 2: With mild to moderately handicapped Learning Disabled and Educably Mentally Impaired students, the lower socioeconomic status students will tend to be labeled EMI by professionals regardless of years of experience, role, educational level, professional development activities, or number of decisions in which they have been involved.

Hypothesis 3: With mild to moderately handicapped LD and EMI students the higher SES students will tend to be labeled LD by professionals regardless of years of experience, role, educational level, professional development activities, or number of decisions in which they have been involved.

Years of Experience

As shown in Table 16, the multivariate tests of the interaction of years of experience and the labeling decisions were found not to be significant at the $p<.05$ level. Throughout this study, all four multivariate tests will be shown in accordance with the recommendation of Barker and Barker (1984) that "their inclusion will enable the reader to evaluate hypotheses that may differ from those formulated by the investigator" (p. 106).

TABLE 16

Multivariate Tests of Significance (S=2, M=2-1/2, N=55) for Years of Experience and Labeling Decisions of Respondents

Test Name	Value	Approx. F	Hypoth. DF	Error DF	Sig. of F
Pillais	.13493	1.023186	16.00	226.00	.43439
Hotellings	.14605	1.01323	16.00	222.00	.44362
Wilks*	.86907	1.01759	16.00	224.00	.43895
Roys**	.09097				.47008

* F statistic for Wilk's lambda is exact.
** The probability for Roy's criterion may be inaccurate.

Even though the multivariate tests were not significant, individual univariate tests were done to see if any of the four independent variables were affected by years of experience. For this study, the Hummel and Sligo procedure was used as described in Barker and Barker (1984). In this procedure, univariate analysis of variance is routinely done after the multivariate analysis. Even though Barker and Barker do not advise using the univariate tests if the multivariate tests were not significant, that procedure was followed in this study because the univariate tests are more powerful than the multivariate tests and, therefore, some noteworthy relationships might become evident.

The univariate tests for years of experience and labeling decisions were not significant as shown in Table 17.

TABLE 17

Univariate F Tests with (2, 119) D.F. for Years of Experience and Labeling Decisions of Respondents

Variable	Hypoth. MS	Error MS	F	Sig. of F
LD AD	1.958933	3.52108	.55623	.57485
LD VP	4.76148	3.86732	1.23121	.29563
LD IQ	2.42489	4.97569	.48719	.61557
LD SES	.20161	.95937	.21015	.81076
EMI AD	2.09294	1.57582	1.32816	.26886
EMI VP	1.66951	1.00709	1.65775	.19494
EMI IQ	4.24287	4.60966	.92043	.40116
EMI SES	1.41751	.66659	2.12652	.12376

Role

As shown in Table 18, the multivariate tests of the influence of role on the labeling decisions were found not to be significant at the .05 level of probability.

TABLE 18

Multivariate Tests of Significance (S=4, M=1-1/2, N=54-1/2) for Role and Labeling Decisions of Respondents

Test Name	Value	Approx. F	Hypoth. DF	Error DF	Sig. of F
Pillais	.33331	1.29533	32.00	456.00	.13315
Hotellings	.38415	1.31451	32.00	438.00	.12085
Wilks	.69953	1.30664	32.00	410.94	.12666
Roys*	.17287				.13299

* The probability for Roy's criterion may be inaccurate.

The univariate tests for role and labeling decisions as shown in Table 19 found SES not to be significant for either the LD or the EMI decision. Even though the SES decisions were not significant, the univariate tests for LD adaptive behavior and for LD verbal/performance IQ discrepancy were significant at the .05 alpha level. In order to find out which groups were influenced by LD adaptive behavior, individual means for the different groups were compared. Table 20 shows that special education teachers certified in low incidence disabilities and support personnel were more

Univariate F Tests with (4, 118) D.F. for Role and Labeling Decisions of Respondents

Variable	Hypoth. MS	Error MS	F	Sig. of F
LD AD	12.44439	3.24005	3.84083	.00570*
LD VP	10.10265	3.63975	2.77564	.03015*
LD IQ	2.36621	5.00355	.47291	.75553
LD SES	.04386	.97055	.04519	.99610
EMI AD	2.04063	1.58232	1.28964	.27804
EMI VP	1.06837	1.07099	.99577	.41182
EMI IQ	5.43246	4.55688	1.19214	.31791
EMI SES	.37878	.72000	.52609	.71675

* $p < .05$

TABLE 20

Means and Standard Deviations for LD Adaptive Behavior by Role of Respondents

Role	Mean	Standard Deviation	N
High Incidence Teachers	.5315	1.9500	52
Low Incidence Teachers	-.8942	1.6100	26
Support Personnel	-.7772	2.0460	23
Teacher Consultants	.0288	1.5547	13
Administrators	.1667	.9598	15

likely to rate case descriptions low in adaptive behavior as LD than were other professionals.

The table of means and standard deviations for VP IQ discrepancy, Table 21, shows that all groups rated case descriptions high in verbal/performance IQ discrepancy as LD but support personnel and administrators did so more than other groups of professionals. Teachers certified in low incidence disabilities were much less influenced by VP IQ discrepancy than were other groups.

TABLE 21

Means and Standard Deviations for LD VP IQ Discrepancy by Role of Respondents

Role	Mean	Standard Deviation	N
High Incidence Teachers	1.8630	2.2849	52
Low Incidence Teachers	.7788	1.5622	26
Support Personnel	2.0272	1.4366	23
Teacher Consultants	1.8942	1.2664	13
Administrators	2.6333	2.0526	15

Educational Level

The multivariate tests for educational level and labeling decisions were not significant at the .05 level of probability as shown in Table 22.

The univariate tests as shown in Table 23 indicate that there are no statistically significant differences among

TABLE 22

Multivariate Tests of Significance (S=3, M=2, N=55) for Educational Level and Labeling Decisions of Respondents

Test Name	Value	Approx. F	Hypoth. DF	Error DF	Sig. of F
Pillais	.28542	1.49831	24.00	342.00	.06442
Hotellings	.33101	1.52632	24.00	332.00	.05635
Wilks	.73570	1.51366	24.00	325.44	.06017
Roys	.17321				.05960

TABLE 23

Univariate F Tests with (3, 119) D.F. for Educational Level and Labeling Decisions of Respondents

Variable	Hypoth. MS	Error MS	F	Sig. of F
LD AD	3.88993	3.53306	1.10101	.35161
LD VP	18.10206	3.49236	5.12328	.00212*
LD IQ	7.24091	4.85849	1.49036	.22069
LD SES	.54806	.95005	.57687	.63131
EMI AD	.31551	1.6296	.19360	.90058
EMI VP	1.49671	1.06017	1.41176	.24277
EMI IQ	11.68921	4.40650	2.65272	.05181*
EMI SES	.28549	.71948	.39680	.75554

* $p < .05$

educators with different levels of education in the effect of SES on their ratings. However, LD VP IQ discrepancy was significant and EMI IQ was marginally significant. When the individual means were compared in Table 24, it was apparent that professionals at the MA and MA+ educational levels gave cases high in VP IQ discrepancy higher LD ratings than did professionals with a BA degree.

TABLE 24

Means and Standard Deviations for Educational Level and LD VP IQ Discrepancy Labeling Decisions of Respondents

Educational Level	Mean	Standard Deviation	N
BA	.8778	1.3797	44
MA	2.1875	2.1250	54
MA+	2.3705	1.9213	28
EdS or Above	1.5833	2.6732	3

Table 25 shows that high IQ influenced all groups to be less likely to rate case descriptions as EMI. MA and EdS and above educational levels were especially influenced. However, there were only 5 professionals at the EdS and above level.

When all the multivariate and univariate tests were taken into account, Hypothesis 2, that low SES students would tend to be labeled EMI by professionals regardless of

TABLE 25

Means and Standard Deviations for Educational Level and EMI IQ Labeling Decisions of Respondents

Educational Level	Mean	Standard Deviation	N
BA	-4.5744	1.9816	42
MA	-4.9653	2.3929	54
MA+	-5.9491	1.7834	27
EdS or Above	-6.5250	3.0406	5

years of experience, role, educational level, professional development activities, or number of decisions in which they have been involved, was not upheld in this study. Hypothesis 3, that high SES students would tend to be labeled LD by professionals regardless of years of experience, role, educational level, professional development activities, or number of decisions in which they have been involved, was not upheld either. Rather, socioeconomic status was not a significant factor in either the LD or the EMI labeling decision.

Hypothesis 4

Of the four independent variables--adaptive behavior, verbal/performance IQ discrepancy, IQ, and socioeconomic status--the most variance will be accounted for by verbal/performance IQ discrepancy and IQ combined.

a. **Students with IQs above 70 and a difference of 15 or more points on verbal/performance IQ discrepancy will tend to be labeled LD by professionals regardless of number of years of experience, role, educational level, professional development activities, or number of decisions in which they have been involved.**

b. **Students with IQs below 70 and a difference of 8 or less points on verbal/performance IQ discrepancy will tend to be labeled EMI by professionals regardless of number of years experience, role, educational level, professional development activities, or number of decisions in which they have been involved.**

When all categories were collapsed so that only the eight variables--LD AD, LD VP, LD IQ, LD SES, EMI AD, EMI VP, EMI IQ, EMI SES--were considered, the multivariate tests were all significant as shown in Table 26.

In order to see which of the eight variables were significant, univariate tests were done. Table 27 shows that for the LD decision, verbal/performance IQ discrepancy and IQ were statistically significant, and for the EMI decision, adaptive behavior, IQ, and SES were statistically significant.

In order to assess the relative importance of each of these factors, individual means were computed as shown in Table 28. Because the high mean was subtracted from the low

TABLE 26

Multivariate Tests of Significance (S=1, M=3, N=56-1/2) for All Labeling Decisions of Respondents

Test Name	Value	Exact F	Hypoth. DF	Error DF	Sig. of F
Pillais	.89198	118.70176	8.00	115.00	0*
Hotellings	8.25751	118.70178	8.00	115.00	0*
Wilks	.10802	118.70178	8.00	115.00	0*
Roys	.89198				0*

* p < .05

TABLE 27

Univariate F Tests with (1, 119) D.F. for the Labeling Decisions of Respondents

Variable	Hypoth. MS	Error MS	F	Sig. of F
LD AD	1.42734	3.54184	.40299	.54674
LD VP	390.81758	3.85165	101.46760	0*
LD IQ	217.33537	4.91708	44.20012	0*
LD SES	.01829	.94017	.01946	.88929
EMI AD	99.04586	1.59734	62.00658	0*
EMI VP	2.89647	1.07090	2.70469	.10263
EMI IQ	3287.29281	4.58559	716.87509	0*
EMI SES	4.63429	.70881	6.53808	.01178*

* p < .05

TABLE 28

Means and Standard Deviations for Each Significant Variable

Variable	Mean	Standard Deviation	N
LD VP	1.7695	1.9635	128
LD IQ	1.3340	2.1943	128
EMI AD	- .9380	1.3094	127
EMI IQ	-5.1171	2.2254	127
EMI SES	.1939	.8219	127

mean, the difference between each mean and zero is of interest.

For the Learning Disabilities decision, case descriptions with high VP IQ discrepancy were marked an average of 1.7695 points higher than were cases with low VP IQ discrepancy. Also for the LD decision, the case descriptions with high IQ were marked an average of 1.3340 points higher than cases with low IQ. The negative ratings for EMI AD and EMI IQ indicate that cases with low levels of adaptive behavior and IQ were rated higher than cases with high levels of those factors. For the EMI decision, case descriptions with low adaptive behavior were rated an average of .9 points higher than those with high adaptive behavior. Also for the EMI decision, cases with low IQ were rated an average of 5.1171 points higher than cases with high IQ. Case

descriptions high in SES were rated an average of .1939 points higher than cases with low SES for the EMI decision.

In view of the above results, Hypothesis 4a is accepted. High IQ, defined as above 70 for this study, and high verbal/performance IQ discrepancy, defined as a difference of 15 or more points on the WISC-R for this study, were very influential in choosing the LD label regardless of years of experience, role, educational level, professional development activities, or number of decisions in which professionals have been involved. Hypothesis 4b is partially accepted. Low IQ did lead to the EMI label, but verbal/performance IQ discrepancy was not significant for the EMI label. Low adaptive behavior, however, led to the EMI label. High SES resulted in a slight tendency to rate students EMI also.

Hypothesis 5

With mild to moderately handicapped LD and EMI students, adaptive behavior will have less effect than will SES or IQ or verbal/performance IQ discrepancy on the labeling decision for professionals regardless of years of experience, role, educational level, professional development activities, or number of decisions in which they have been involved.

As previously shown in Tables 26, 27, and 28, IQ and verbal/performance IQ discrepancy had a significant effect on the LD labeling decision. These same tables have also shown that adaptive behavior had an effect in that low

adaptive behavior led professionals to rate cases more EMI. Therefore, hypothesis 5 is partially accepted since IQ and VP IQ discrepancy had a greater effect than adaptive behavior, but adaptive behavior did have a significant effect on the EMI labeling decision. Thus, adaptive behavior was not the least important variable as had been expected.

Summary

The results of this study may be summarized as follows:

1. The influence of SES on the labeling decisions was not affected by the demographic variables years of experience, role, educational level, professional development activities, or number of decisions in which the professional has been involved.
2. High SES did not result in a tendency to label the student LD, nor did low SES result in a tendency to label the student EMI when labeling decisions were considered in relation to demographic variables.
3. Of the four variables investigated--adaptive behavior, verbal/performance IQ discrepancy, IQ, and SES--the LD decision was influenced most by high verbal/performance IQ discrepancy and high IQ (defined as above 70).
4. Of the four variables investigated, the EMI decision was influenced most by low IQ (defined as below 70) and impaired adaptive behavior.
5. There was a tendency for high SES to result in the EMI label when variables were considered independently.

The implications of these results will be discussed in detail in Chapter V.

CHAPTER V

SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

Summary

The problem of labeling students for special education is of paramount importance in the field today. With the mild to moderate high incidence categories of Educable Mentally Impaired (EMI) and Learning Disabled (LD), the choice between labels is often unclear. This study investigated four factors--adaptive behavior, verbal/performance IQ discrepancy, IQ, and socioeconomic status (SES)--that influence the choice between the LD and EMI labels.

Three of the four factors were chosen because they are cited in the Michigan Special Education Rules for eligibility as LD or EMI. To be labeled LD, a student must show a near normal IQ and a significant discrepancy between achievement and ability. For this study, discrepancy was indicated by high verbal/performance IQ discrepancy (over 15 points) on the Wechsler Intelligence Scale for Children-Revised (WISC-R). To be labeled EMI, a student must show impaired adaptive behavior and intellectual development approximately two to three standard deviations below the mean. The fourth factor, socioeconomic status, is specifically prohibited in the rules from being a sole determinant.

In this study, the influence of these four factors was related to demographic characteristics of the staff including years of experience, role, educational level, professional development activities and number of decisions in which the professionals have been involved. It is important to understand that the study was concerned with the opinions of staff members about the factors that influence labeling. It was not concerned with numbers of children from different socioeconomic levels that were actually labeled LD or EMI.

It was hypothesized that the influence of SES on the labeling decisions would not be affected by demographic variables; high SES students would be labeled LD; low SES students would be labeled EMI; a combination of an IQ above 70 and a verbal/performance IQ discrepancy of over 15 points would lead to the LD label; a combination of an IQ below 70 and low verbal/performance IQ discrepancy would lead to the EMI label; and adaptive behavior would have less effect on the labeling decisions than would the other three factors.

Literature in five different areas was reviewed. First, documentation was presented that indicated that low socioeconomic status and minority students have historically been overrepresented in the EMI category. Two points of view were discussed regarding the cause of the overrepresentation. One group of scholars believed the overrepresentation was caused by cultural/social factors, and thus mental retardation is an ascribed social status. A second group believed medical reasons primarily related to a lack of

proper nutrition, and hence, impaired brain development caused the problem.

Second, the revised definition of the American Association on Mental Deficiency (AAMD) was discussed in which the upper limit of mental retardation was reduced from an IQ of 85 to one of 70 and adaptive behavior was emphasized. In addition, court cases alleging that low SES and minority students had been unfairly placed in EMI classes were reviewed. A number of adaptive behavior scales were commented upon and the controversy that surrounds the measurement of adaptive behavior was addressed.

Third, literature relating to the lack of consensus on a definition for learning disabilities was presented. Studies were reviewed that concluded that there are no common eligibility standards, and that there is a great deal of confusion about what a learning disability is and how it should be measured. A fourth area reviewed concerned research studies on socioeconomic status, race, and special class placement. The majority of these studies found that low SES and racial minority membership did lead to special class placement. The studies covered a wide range of disciplines from the field of medicine to the social sciences.

The fifth area reviewed was decision making. Several studies done at the Institute for Learning Disabilities in Minnesota were reviewed. These studies concluded that not only are the outcomes in labeling students LD unclear but the process by which the students are labeled is also nebu-

lous. Researchers have largely been unable to determine how or why special education placement decisions are made. A participant observation study (Bloom, 1980) that did yield some useful information was reviewed. In this study it was found that parents were largely disenfranchised and there were many unwritten rules operating during team meetings.

To obtain information about the relationship between factors that influence the labeling decisions, a questionnaire was administered to the 248 members of the Lansing School District Special Education professional staff. The questionnaire consisted of two parts. First, demographic data were requested from participants including years of experience, role, educational level, professional development activities, and number of decisions in which the professional has been involved.

Second, 16 hypothetical case descriptions of first, second, and third graders who were said to be achieving significantly below grade level were presented to the participants. The case descriptions were designed so that each factor was portrayed as high (present) or low (absent). When each of the two levels of the four factors was combined in all possible ways, 16 case descriptions resulted. Respondents were asked to make two decisions about each case description: (1) On a continuum of 0 to 10, what is the likelihood that this student is Learning Disabled? (2) On a continuum of 0 to 10, what is the likelihood that this

student is Educable Mentally Impaired? Thus, 32 responses were requested from each participant.

Just over 59% of the questionnaires were returned in this study. Demographic data were analyzed by the Statistical Package for the Social Sciences (SPSS, Nie et al., 1975), Crosstabs, and Condescriptive subprograms. Case descriptions were analyzed by SPSS Multivariate Analysis of Variance--repeated measures design (Nie et al., 1975).

Major findings of this study were: Lansing staff members have been special educators an average of twelve years (standard deviation, just over 5 years). Staff members were about equally divided between elementary and secondary levels and everyone engaged in a number of professional development activities including taking college courses. Over 65% of the staff members, mostly teachers, have taken a course within the last three years. There is great variety in number of IEPCs attended, but about 70% of the staff, again mostly teachers, attended from 0 to 6 IEPC meetings in April, 1985.

In the opinion of the professionals who participated in this study, there was no difference in the influence of SES on the labeling decisions based on demographic characteristics of the staff. In fact, when considered in relation to demographic data, SES was not a significant factor in the decision to choose between the LD or EMI labels. Of the four variables investigated, the LD decision was most influenced by high verbal/performance IQ discrepancy and high

IQ (defined as above 70). For the EMI decision, low IQ (defined as below 70) and low adaptive behavior were most influential. There was a slight tendency for SES to lead to the EMI label.

Discussion of Results

Introduction

Results of the analysis of data will be discussed in this chapter under three main headings. First, results of the demographic data will be considered. Second, the labeling decisions will be addressed under the following subsections: (1) socioeconomic status (SES) considered in relation to demographic characteristics, (2) significant variables considered in relation to demographic characteristics, and (3) significant independent variables. Third, the process of decision making for Lansing professionals will be explored.

Demographic Data

Results of the demographic data indicate that the average professional staff member in Lansing has been a special educator for just over twelve years, seven of those in the present role. Over one half the staff has been in the field for six to fifteen years. Most of Lansing's first year staff members are preprimary teachers. Staff members work in about equal proportions between elementary and secondary levels, about 40% each, with the remaining 20%, mostly diagnosticians and administrators, working at all

levels. Most staff members, over 60%, have master's degrees.

Everyone engages in a number of professional development activities. In fact, because everyone engages in so many of the same activities, it was decided that no useful distinctions between type of activity, demographic data, and labeling decisions could be made. In many cases respondents listed activities on the questionnaire such as presenting at workshops, committee membership, and leadership roles in professional organizations. As a part of this question, respondents were asked when they took their last college course. Over 65% have taken a course in the last three years. Thus, professional development seems to be important to respondents.

Because the majority of respondents had taken college courses after 1982, crosstabulations were done by year of course (before and after 1982) and demographic data. When crosstabulations were done by role and year, it was evident that teachers took most of the courses after 1982. One group that noticeably did not take courses after 1982 was the support group. Eleven of that group were physical therapists (P.T.s) and occupational therapists (O.T.s), most of whom end their education with the bachelor's degree. Apparently once a degree is earned, status in the field is attained by membership in professional organizations and professional certification, rather than by a master's degree.

A group that conspicuously did take courses after 1982 is preprimary teachers of whom 100% are taking courses now probably to enable them to meet certification requirements. This past year all but one of the preprimary teachers were newly hired.

There was great variety in the number of Individualized Educational Planning Committee (IEPC) meetings attended. When crosstabulations were done by number of IEPCs attended and role, it was evident that program consultants attended the most IEPCs. Since chairing IEPCs is a major responsibility for them, this is understandable. Most teachers attended 0 to 6 IEPCs in April. It should be pointed out that April is not a typical month for number of IEPCs held because it is the beginning of transition IEPCs during which students are advanced to the next level for the following year.

Staff members did not return questionnaires in equal proportions. Teachers had the best rate of return, approximately 70%. However, "teachers" were not a homogeneous group. There were actually four groups of teachers. They were: (1) classroom teachers certified in high incidence disabilities, (2) classroom teachers certified in low incidence disabilities, (3) teacher consultants who are primarily diagnosticians, and (4) program consultants who perform quasi-administrative duties even though they are certified teachers. Because they perform similar functions, for the

analysis of data program consultants were grouped with administrators.

Support personnel had the poorest rate of return. Psychologists and social workers returned only about 30% of the questionnaires sent to them while speech therapists, P.T.s, and O.T.s returned about 50% of the questionnaires. Several P.T.s and O.T.s said they did not return the questionnaires because they did not feel qualified to make labeling decisions. Several psychologists and social workers said they could not participate because the information in the case descriptions was too inadequate to make a decision. The poor rate of return by support personnel who attend a great many IEPC's and for whom assessment and diagnosis are major responsibilities, means conclusions about labeling decisions must be tenuous.

If there is such a person, the average Lansing professional is a teacher who has been a special educator for about 12 years, seven of those in the present role. This person has a master's degree and has taken a college course since 1982. He/she also reads professional books and journals, attends workshops and inservices, and participated in about six IEPCs in April, 1985.

Labeling Decisions

Socioeconomic Status Considered in Relation to Demographic Characteristics

The results of this study support the position that in Lansing socioeconomic status is not a significant factor in

the decision to label a student Learning Disabled or Educable Mentally Impaired when decisions are considered in terms of years of experience, role, or educational level. The majority of authors and researchers (MacMillan, 1982; Mercer, 1973; Heller, 1982; Bergan & Smith, 1966; Neer, Foster, Jones & Reynolds, 1973) have shown that most EMI students are also of low SES. The literature (Scarr-Salapatek, 1971; Franks, 1971; Prillaman, 1971; Lanier & Wittmer, 1977) also shows a connection between race and EMI status which is pertinent because most low SES EMI students are also of racial minorities. Several studies (Kealy & McLeod, 1978; Gelb, 1984) indicate that high SES led to the LD label. Yet for the professionals surveyed in this study, that is not the case. When SES is considered in terms of years of experience, role, and educational level, it makes no difference in the labeling decision. There are several possible reasons for this result.

First, perhaps overrepresentation of Blacks and low SES students has not existed historically in Lansing, and therefore has never had to be addressed as a problem. Heller (1982) has shown that the majority of EMI students are also minorities. It is easy to see which students are members of minority groups. In Lansing, the December 1, 1984 special education student count showed that of the EMI students, 32% were Black, 61% were white and 7% were other. Of the LD students, 31% were Black, 55% were white and 14% were other. EMI students accounted for 10.6% of the total special educa-

tion students and LD accounted for 32.8% of the total. Of all special education students in all categories, 26.8% were Black, a percentage that compares favorably to the 30% Black students in the Lansing School District overall. Thus Blacks are not overrepresented in special education in Lansing.

Both Heller (1982) and Broman (1975) have shown that minority status is linked to low SES. Conceivably because Blacks are not overrepresented, low SES is not a factor with which Lansing professionals are forced to deal. According to Heller (1982), there is the least amount of overrepresentation of Blacks in the midwest. "The midwest is even more homogeneous, with all average disproportion indexes near zero" (p. 338).

A second point is that this study concerns decision making and opinion on the part of professionals. It does not concern actual numbers of identified EMI students who might be of low SES. This study shows that in the opinion of the professionals in Lansing who participated, SES, as portrayed in the case descriptions, was not important in the decision to label a student LD or EMI when considered in terms of demographic characteristics. While indicating SES by occupation in hypothetical case descriptions is commonly done, (Ysseldyke, 1980) it is possible that the SES statements in the case descriptions were so obvious that people consciously avoided letting them influence their decisions even though in real life, SES might be a factor. The case

description/questionnaire approach, as used in this study, does not allow subtle influences to be measured. Bloom (1980) certainly found SES to be important in very subtle ways. Perhaps people were reacting as they think they should, not as they really would.

Third, there are several community wide social trends that may actively impact the opinions of professionals. Lansing is the seat of state government and as such it has a tradition of affirmative action and sensitivity to minorities. It is also the home of Michigan State University. By virtue of working in a university community, Lansing professionals can be expected to be more aware of recent research, teaching techniques, and crucial issues in education than other professionals might be. Still another relevant factor might be that in the early 1970's the Lansing School District was desegregated by court order. It was found that elementary schools were racially segregated due to neighborhood racial patterns. To achieve desegregation, the schools were divided into upper and lower elementary buildings, and students were bussed out of their neighborhood to another school for racial integration. After the initial period of unrest, the situation has been accepted. Thus there has been a history in the schools of attention to minority issues.

It is very likely that these factors, and probably others, have converged so that in the opinion of professionals in Lansing, high or low SES should not be an important

factor in the decision to label a student LD or EMI. However, several other variables were significant.

Significant Variables Considered in Relation to Demographic Characteristics

When labeling decisions were considered by role, LD adaptive behavior (LD AD) and LD verbal/performance IQ discrepancy (LD VP) were significant. When decisions were considered by educational level, LD VP and EMI IQ were significant. No variables were significant when considered by years of experience. Each variable will be discussed individually.

Role and LD Adaptive Behavior: LD AD was significant for teachers endorsed in low incidence areas and for support personnel. Those two groups rated cases low in adaptive behavior as more LD than did other groups. One would expect low adaptive behavior to result in the EMI, not the LD, label. However, since they do not regularly work with this population, teachers endorsed in low incidence disabilities would not be expected to be as familiar with the qualifications necessary for LD classification as would certain other groups of professionals. From the low adaptive behavior case descriptions, it was obvious something was wrong with the student, but perhaps the IQ's in the upper 60s seemed too high to label the student EMI, so they chose the LD label. Thus the label choice could be a result of not knowing the rules for LD classification.

The support personnel group included four psychologists, three social workers, nine speech therapists, seven O.T.s and four P.T.s. Two things could have happened. First, this group as a whole could be expected to have had very little, if any, classroom teaching experience even though it is possible that some members of the group were classroom teachers before becoming certified in their present role. Ferrazzara (1983) found that professionals without classroom teaching experience made very different decisions from those with teaching experience. In her study, psychologists without classroom experience were particularly different. Their lack of classroom teaching experience could have led support group personnel to make decisions not in accord with what is expected.

Second, members of the group, other than psychologists and social workers, might be unfamiliar with the qualifications for LD and EMI students with respect to adaptive behavior. The four psychologists and three social workers who returned questionnaires should be very familiar with the rules for qualifying students. However, the P.T.s and O.T.s who made up the majority of the group could not be expected to be familiar with general special education rules because they perform a specific function, usually with students in low incidence categories. Also, P.T.s and O.T.s attend IEPCs to describe their services only if their services will be needed, but they generally do not actively participate in

the eligibility decision since the provision of their services does not depend on the classification of the student.

Speech therapists in Lansing are a mixed group. Some of them work exclusively with and are familiar with high incidence disabilities while others work exclusively with and are familiar with low incidence disabilities. They are assigned to one area or the other and do not work with both at the same time although they might have worked with both high and low incidence disabilities at some time in their careers. As a group, they probably fall between psychologists/social workers and P.T/O.T.s in their knowledge of eligibility criteria.

Role and LD Verbal/Performance IQ Discrepancy: LD VP IQ discrepancy was statistically significant when considered by role. All groups rated case descriptions high in VP IQ discrepancy as LD but support personnel and administrators were most influenced while low incidence teachers were least influenced. According to eligibility criteria in the Michigan Rules, it is to be expected that VP IQ discrepancy would lead to the LD label, but the large differences due to role are interesting. Low incidence teachers only rated high cases an average of .7 points higher than low cases, while support personnel rated high cases an average of 2.0 points higher than low cases and administrators rated them an average of 2.6 points higher. There was a difference of almost two points on a scale of 0 to 10 between the ratings of low incidence teachers and administrators. Here again,

perhaps the low incidence teachers are less familiar with the LD and EMI eligibility rules than other groups, and therefore they were less influenced by VP IQ discrepancy. For the support personnel and administrators/program consultants, VP IQ discrepancy was very important in the LD decision.

Educational Level and LD Verbal/Performance IQ Discrepancy: When decisions were considered by educational level, VP IQ discrepancy was much more important for professionals at the master's degree and master's degree plus levels. They rated high cases an average of more than two points higher than low cases while professionals with bachelor's degrees rated high cases an average of only .8 points higher than low cases. It is to be expected that high VP IQ discrepancy would lead to the LD label, but this difference was more influential for professionals with master's degrees than for those with bachelor's degrees. It is not surprising that professionals with master's degrees believe LD VP IQ discrepancy is very important. Almost all professionals in Lansing endorsed in learning disabilities have master's degrees. When the category first became part of the rules many teachers returned to school for certification, but at that time, locally, it was not possible to become certified without obtaining a master's degree. Since then, undergraduate programs have been instituted but there have been few opportunities in the district to hire new teachers.

Thus in Lansing with its older staff, almost all LD teachers have master's degrees.

Educational Level and EMI IQ: The second significant variable for educational level was EMI IQ. All groups rated case descriptions with low IQ as EMI but professionals at the master's degree plus and Educational Specialist and above levels did so particularly. It is to be expected that low IQ would lead to the EMI label but the differences between groups are significant. Many of the master's plus staff members were originally endorsed EMI and one would expect them to know the eligibility rules. In fact, many people from this group became endorsed in LD later. There certainly are very few EMI endorsed first year teachers in Lansing. The drop in numbers of EMI students led to a need to recertify EMI teachers in other disabilities that have rising numbers, not to a need to hire more. The high ratings of EdS and above professionals resulted form a group of only five people.

Significant Independent Variables

When data were collapsed into classification categories alone, without respect to demographic variables, all multivariate tests were significant. Of the eight variables, LD AD, LD VP, LD IQ, LD SES, EMI AD, EMI VP, EMI IQ, EMI SES, five, LD VP, LD IQ, EMI AD, EMI IQ, and EMI SES, were significant. High LD verbal/performance IQ discrepancy and high IQ led to the LD label; low adaptive behavior and low

IQ led to the EMI label; high SES resulted in a slight tendency toward the EMI label. Each result will be discussed individually.

LD Verbal/Performance IQ Discrepancy: Cases high in VP IQ discrepancy were rated an average of 1.7 points higher than cases low in VP discrepancy by all professionals. LD VP IQ discrepancy was also significant for professionals by role and by educational level as previously discussed. In spite of the cautions of Banas (1984) and Kaufman (1979) about using discrepancy criteria to qualify students for LD, it seems that Lansing professionals are very much influenced by VP IQ discrepancy as are many other professionals. Even though it may not be the best way to establish qualifications for LD, it seems to be commonly used. It is important to keep in mind that there are many other factors that might affect the LD labeling decision that were not part of this study. For example, if reading achievement, not VP IQ discrepancy, is the real reason Lansing professionals label students LD, that would not be apparent from this study. Based on this study, it can only be said that of adaptive behavior, verbal/performance IQ discrepancy, IQ, and SES, high verbal/performance IQ discrepancy influences professionals toward the LD label.

LD IQ: cases high in IQ were rated an average of 1.3 points higher for the LD decision than were cases low in IQ. Therefore, IQ made a significant difference for the labeling

decision in the expected direction. Full scale IQ in the case descriptions varied from 84 to 92 (a difference of 8 points) for the high cases, and from 56 to 68 (a difference of 12 points) for the low cases. The difference between the top of the low group and the bottom of the high group was 16 points which was greater than the difference between the top and bottom of each group. Therefore, the high group was very different from the low group. IQ was extremely important to professionals in their labeling decision. Thus the two criteria of VP IQ discrepancy and relatively high IQ together resulted in the LD label as specified in the Michigan Rules.

EMI Adaptive Behavior: For the EMI decision, cases low in adaptive behavior were rated an average of .9 points higher than the high cases. Professionals were significantly affected by adaptive behavior for the EMI decision, and they were affected in the expected direction as specified in the Michigan Rules for EMI eligibility. Lansing professionals do seem to recognize and subscribe to the importance of impaired adaptive behavior, at least as presented in the case descriptions, for qualifying EMI students. However, the fact that impaired adaptive behavior led to the LD label for low incidence teachers and support personnel, when data were considered by role, illustrates the confusion that surrounds understanding and measuring adaptive behavior.

EMI IQ: For the EMI decision, IQ made a significant difference for professionals. Cases with low IQ were rated an average of more than 5 points higher than cases with high IQ. Therefore, the combination of low IQ and low adaptive behavior as specified in the eligibility criteria in the Michigan Rules led to the EMI label. EMI IQ was also significant by educational level. As expected, low IQ led to the EMI label while high IQ led to the LD label.

EMI Socioeconomic Status: It is curious that cases high in SES were rated an average of .19 points higher than cases low in SES for the EMI decision. Because low cases were subtracted from high cases, the difference from zero is of interest. If cases were evenly rated, the difference between the high and low cases would be zero. Even though .19 is not very different from zero, it did prove to be statistically significant.

Ysseldyke and Algozzine (1980) conducted a study in which some aspects of the design were similar to the present study. They used multivariate analysis of variance in their computer simulation study of decision making in referrals. Their sample of 83 professionals was randomly assigned to one of 16 cases differing in referral statements. As in this study, they had two levels of four variables--(1) sex, (1) SES, (3) attractiveness, and (4) behavioral vs. academic reason for referral. Participants were then asked to choose information and make four decisions--(1) eligibility (yes or no), and extent to which the child was, (2) LD, (3) EMI, or

(4) emotionally disturbed (EI). They set the level of significance at .05, but also, "an additional criterion of at least a 0.5 unit difference between means was established in an attempt to separate trivial from important outcomes" (p. 5). If one were to apply this criterion to the EMI SES .19 difference in means, the difference may not be important.

It is possible that professionals have become so attuned to the fact that SES should not influence their decisions that they overreact and rate cases high in SES as EMI. Argulewicz (1983) found that mid-high SES Blacks were actually underrepresented in the EMI category. He speculated that this was due to public criticism of minority overrepresentation and court decisions against placement of Blacks as EMI. Perhaps there is a backlash effect against labeling low SES students EMI. It is also important to keep in mind that SES had no influence on the labeling decisions when considered in terms of years of experience, role or educational level.

Decision Making

Lansing professionals seem to be trying very hard to follow the rules in decision making. They seem to be most influenced by factual data--IQ scores and VP IQ discrepancy. The fact that IQ information appears to be so important is in agreement with Smith and Knoff (1981) when they found that IQ "tips the balance" (p. 55). Their results indicated that once IQ information was given, further problem solving

attempts ceased. In a subsequent study, Knoff (1983) learned that classroom observation was most important to professionals when given a list of traits to order. Knoff (1983) concluded that his results refuted the importance of IQ, but perhaps not. The Knoff study dealt with lists of traits in isolation. It is very possible that professionals would not rate IQ highly on a list of traits, but that it would be influential when considering an actual child.

Reschly and Lamprecht's (1979) study is germaine. They found that labels result in expected outcomes unless the subject has had a chance to view the child. In fact, the longer subjects viewed the child, the more realistic their predictions were. Probably what happens is that the more professionals view an actual child, the more factors they take into account in making a decision that fits that particular case. This would agree with Ferrazzara (1984) who found that professionals with teaching experience made better decisions about children than those with no teaching experience. If one is teaching the child, one has ample opportunity to view the child. Even though professionals may order a list of traits in a way they think they should, when they rate a hypothetical child a different set of internal guidelines may become ascendant. When they view and decide about an actual child, still a third set of standards may become dominant.

Kaplan (1977) discussed judgment on the part of humans in general. He referred to the "zone of ambiguity" in

judgment tasks as the area "between that which can be observed and that which must be inferred because it cannot be observed" (p. 3). We base judgments on observable cues but we infer the reason behind the cues because it cannot be observed. Boucher (1981) also talked about ambiguity. She explained that teachers try to reduce ambiguity when perceiving others. We make what we see fit into our system of beliefs. Kaplan also maintained that in judgments dealing with social values, we must separate the facts from the social values, especially when scientific facts are entangled with social values. When making labeling decisions we try to rely on scientific facts such as IQ scores when a number of social values, our feelings about labels and IQ scores, are actually operating.

To Kaplan, when human observers are unable to combine evidence efficiently, they rely more or less consistently on one source when there is conflicting evidence from two sources. The case descriptions which professionals rated were full of conflicts. What they seemed to do was sort out and rely on the factual information as much as possible. This point of view agrees with Salvia and Meisel (1980) when they proposed that people apply simple or complex rules to reduce the information they perceive so that they can sort, store, categorize, and then use the information available to them. Apparently this happened in the present study. For these case descriptions, it appears that Lansing professionals sought out and based decisions on the IQ and VP IQ

discrepancy information as much as possible. They used adaptive behavior to fill in the gaps but stayed away from SES as much as possible. In the opinion of Lansing professionals, the "hard" data are most important.

Conclusions

Based on the findings of this study, several conclusions seem to be in order. First, socioeconomic status does not appear to be as influential in the labeling decisions as traditionally it has been thought to be. In this study, using the case description approach, in the opinion of professionals who participated, SES when considered in terms of demographic data was not highly influential in the decision to choose between the LD and EMI labels. The high status case descriptions did not tend to be labeled LD disproportionately, nor did the low status case descriptions tend to be labeled EMI disproportionately. Even though the literature shows the EMI label to be highly correlated with low SES, that did not appear to be the case in this study. The literature shows a correlation between the LD label and high SES much less strongly, but at least at the level of folklore in the profession, the two have been thought to be closely related. Yet in this study, the labeling decisions were not influenced by SES when considered in relation to the demographic characteristics of the respondents. In terms of judgment and opinion, when analyzed by role, years

of experience, and educational level, socioeconomic status did not appear to be important in the labeling decisions.

However, SES was influential when variables were considered without regard to demographic characteristics. In that case, high SES led to a slight tendency toward the EMI label. Perhaps respondents were so concerned with not letting low SES influence their decisions that they overreacted and tended to rate high SES cases as EMI.

There has been a great deal written about minority and low SES overrepresentation in the EMI category of special education, and there have been numerous court cases alleging unfair labeling. It has been implied that this overrepresentation was aided by attitudes of professionals, but this does not seem to be borne out by this study. When asked to respond to case studies, these professionals were not greatly influenced by socioeconomic status.

Second, eligibility criteria specified in the Michigan Special Education Rules seemed to provide the basis for deciding between the LD and EMI labels. For the LD decision, significant discrepancy and near normal IQ were the major influences. For the EMI decision low IQ and impaired adaptive behavior were the two most influential criteria. In spite of the difficulty in measuring impaired adaptive behavior, respondents recognized specific behaviors that indicated impairment in this area. It seems that respondents are familiar with the Michigan Rules and endorse their

credibility. They seem to agree that the rules are "right" and they will use them to make decisions.

Third, we seem to have confused fact and opinion when trying to uncover the factors that influence labeling decisions. In the opinion of the professionals who participated in this study, SES was not of major importantance in choosing between the LD and EMI labels. If, in fact, most EMI students are of low status and most LD students are of high status in Lansing, as seems to be the case nationwide, then either opinions change during the group IEPC meeting or low status students do actually fit the EMI eligibility criteria. We need to know which situation is occurring. If opinions change during team meetings, then we need to know why and how. If, in fact, low status students do fit the EMI criteria, then we want to be sure we provide service. We have been so attuned in the field to reducing unfair overrepresentation of low SES and minority students, that we may have denied services to some students who qualify.

Recommendations

Based on the results of this study, several recommendations appear to be in order. First, research efforts at the local school district level need to be encouraged. The local district needs to foster research efforts by encouraging professionals to participate more fully in research. Obviously, participation in research by professionals cannot be coerced, but we will not advance knowledge in the field

unless research efforts are actively encouraged. Some groups of professionals in this study did not return questionnaires at a desirable rate. Only 30% of the psychologists and social workers returned the questionnaires. These two groups seem especially reluctant to participate in local research projects. Yet they are extremely important in the team decision making process in special education. We need their input included with that of other professional groups.

Physical therapists and occupational therapists were also reluctant to participate because many of them do not feel qualified to participate in eligibility decisions. Yet they too are part of the team, and they do participate. Perhaps instruction in the area of eligibility criteria needs to be added to the college curriculum of those who plan to work in educational settings.

Second, the entire area of decision making needs much more investigation. In this study, the opinions of professionals involved in decision making, were investigated. In addition to gathering more information about opinions that influence decisions, we need to observe and report what happens in team meetings, and then we need to compare the two to try to ascertain who is actually making the placement decision based on what information. The research on decision making is extremely varied both in approach and in results. Two main approaches, statistical and participant observation, have been used. Ysseldyke, Algozzine, and Thurlow (1980), by using the statistical approach, concluded

that they knew decisions were made but they were not sure who made them or how. Bloom (1980), by using participant observation, was able to determine who made decisions and how. Perhaps his approach will prove to be more fruitful for decision making research.

Third, we need to value more highly the contributions of teaching professionals in the area of decision making. Historically, the diagnosticians have decided the child's fate, and the teacher has carried it out. With the advent of the Multidisciplinary Team in federal and state legislation, teaching personnel were supposed to take a more active role in eligibility and placement decisions. For some reason, professionals in the field seem to view teachers as the group least capable of making appropriate eligibility decisions. Yet there is evidence (Ferrazzara, 1983; Reschly & Lamprecht, 1979; Knoff, 1983) to support the fact that teachers do make appropriate eligibility and placement decisions. Teachers need to be more highly regarded as decision makers.

Fourth, we need clarification of and wider agreement on LD eligibility criteria. The concerns with using verbal/performance IQ discrepancy as an indicator of learning disabilities were discussed at length in this study. These problems illustrate the need for operationalizing the LD definition. Since the inception of the state and federal legislation, practitioners have debated the merits of various definitions of and standards for eligibility criteria.

We need an organization similar to the AAMD to develop uniform standards and guidelines. Many authors and researchers deplore the seeming chaos about what constitutes a learning disability and its measurement, but no one has taken the initiative in advocating the setting of common standards. It is too easy now to use the category for purposes of convenience. Perhaps standards must be set at the local and intermediate levels first. This may have to be a "bottom up" rather than a "top down" endeavor.

In summary, as special educators we are charged with diagnosing children's disabilities and placing them in appropriate programs so that their abilities can be developed to the maximum extent possible. This is not a charge we take lightly. The first step in the process is to classify children so that a direction can be charted for developing a suitable program. Labeling is an especially sensitive area due to litigation on overrepresentation and to our need not to saddle children with a burden they cannot remove. This labeling is done in team meetings. Team meetings are a relatively new phenomenon in special education that developed largely for philosophical, not empirical, reasons. Even though we all agree that team meetings are good, we know very little about how teams function.

This study endeavored to discover the influence of adaptive behavior, verbal/performance IQ discrepancy, IQ, and SES in the opinions of the participating professionals

before they are called upon to decide between the LD and EMI labels. For participating professionals, the LD decision was most influenced by verbal/performance IQ discrepancy and near normal IQ. The EMI decision was most influenced by low IQ and low adaptive behavior. SES was not influential when considered in relation to demographic characteristics of the staff, though high SES did result in a slight tendency toward the EMI label when variables were analyzed independently. Based on the results of this study, SES does not appear to be as influential in the choice between the LD and EMI labels as it has been thought to be.

APPENDICES

APPENDIX A

QUESTIONNAIRE

QUESTIONNAIRE

Please return to:
Joanne Witte
Hill-So. Mezz.
887-3116
by courier

Dear Colleague:

I would like to request 20 to 30 minutes of your time to complete this questionnaire. Before you begin, please answer the following questions about yourself.

1. I have been a special educator for_____(number) of years.
2. My present role is: ____special education teacher ____areas of endorsement
   ____school psychologist ____program consultant
   ____teacher consultant ____administrator
   ____speech therapist ____school social worker
   ____other (please specify) _____
3. I have been in my present role for_____ (number) years.
4. My educational level is BA____ MA____ MA+____ EdS or above____
5. I work at: ____Preprimary level ____Elementary level ____Secondary level ____ All levels
6. I have participated in approximately_____(number) IEPC's in the last month.
7. My professional development activities for the last year include:
   ____ Reading professional books and journals
   ____ Workshops and Inservices
   ____ College or university courses
   ____ Other (please specify)
   ____ None that I can remember
8. The last college course I took was in_____(date).

Because you are a special educator, you are well aware of the problems we encounter in classifying students for special education. Many factors are involved in the decision about which category is appropriate for each student. In an effort to better understand the decision-making process and the interaction of some of these factors, please read the following 16 hypothetical case descriptions and answer two questions about each one.

1. On a continuum from 0 to 10, what is the likelihood that this student is Educable Mentally Impaired?
2. On a continuum from 0 to 10, what is the likelihood that this student is Learning Disabled?

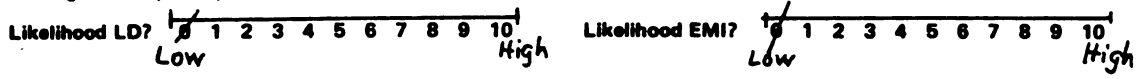
We all understand that we could not classify actual children based on one paragraph of information. Be assured, however, that your participation here will add to the knowledge concerning the relative importance of several factors in the decision-making process.

DIRECTIONS

1. Assume that the 16 hypothetical students are achieving significantly below grade level.
2. Read the case descriptions and answer based on the information given.
3. Place a vertical line on the continuum at the point where you believe each student falls.
4. Answer each of the two questions independently of each other. The statistical test used allows for the fact that both answers could be high or low.

EXAMPLE

Cass is a 14 year old 9th grader who has been referred for special education services. Cass has trouble being attentive in school, and needs constant encouragement. On the Wechsler Intelligence Scale for Children – Revised (WISC-R) Cass scored 90 on verbal IQ and 95 on performance IQ for a full scale score of 92. Mother has enrolled Cass in a reading clinic and is willing to accept help from school for Cass.



CASE DESCRIPTIONS

ROBIN is an 8 year old 3rd grader who has been referred for special education services. Robin asks questions appropriately, understands instructions, and is sociable with others. Robin performs chores around the house, and is very dependable in carrying out responsibilities. On the WISC-R Robin attained a score of 84 for verbal IQ. For performance IQ Robin obtained a score of 101. Robin's full scale score was computed to be 91. Robin lives with mother and two older siblings who often care for Robin while mother works in a laundry. Mother is very concerned about Robin and tries to do what is best in spite of limited financial resources.

JODY is a 6 year old 1st grader who has been referred for special education services. Jody gets to and from school alone, shows good large motor control, pays attention to a purposeful activity, and can be depended upon to care for personal belongings. Jody also shows consideration for others feelings. On the WISC-R Jody obtained a score of 52 for verbal IQ and 73 for performance IQ. Full scale IQ was computed to be 60. Because mother and father are both teachers, they believe it is very important to spend time with Jody at home talking about daily tasks and activities. They try to expose Jody to different experiences which might foster social and intellectual growth.

Likelihood LD? 0 1 2 3 4 5 6 7 8 9 10 Likelihood EMI? 0 1 2 3 4 5 6 7 8 9 10

MARTY is a 7 year old 2nd grader who has been referred for special education services. Marty takes care of clothing, travels around the neighborhood alone, and makes simple purchases. Marty responds when talked to and speaks in simple sentences. On the WISC-R Marty obtained a score of 55 for verbal IQ and 74 for performance IQ, for a full scale score of 63. Marty's mother shows genuine concern but an impaired ability to provide for Marty's emotional and physical needs. Even though she works long hours at a local restaurant, she doesn't earn enough to care for herself and Marty properly.

Likelihood LD? 0 1 2 3 4 5 6 7 8 9 10 Likelihood EMI? 0 1 2 3 4 5 6 7 8 9 10

LEE is a 6 year old 1st grader who has been referred for special education services. Lee needs help getting coat and boots on and off, gets lost when outside the schoolroom, and moves very slowly and sluggishly. Lee does not respond when talked to, and does not pay attention to an activity for longer than 5 minutes. On the WISC-R Lee scored 54 for verbal IQ. Performance IQ measured 71. Full scale IQ was computed to be 61. Father and mother both work part time in a nursing home. They are concerned about Lee but they have so many personal and economic problems themselves that they are able to spend little time helping Lee.

Likelihood LD? 0 1 2 3 4 5 6 7 8 9 10 Likelihood EMI? 0 1 2 3 4 5 6 7 8 9 10

TRACY is a 6 year old 1st grader who was referred for special education services. Tracy cannot name the days of the week or tell time. Tracy cannot run errands in the neighborhood, and cannot be depended upon to take care of personal belongings. Tracy seems to resent teachers and other authority figures. On the WISC-R Tracy scored 56 for verbal IQ. Performance IQ measured 72. Full scale IQ was computed to be 62. Because mother and father are very concerned about Tracy's school problems, they have engaged a therapist to help with the social problems and enrolled Tracy in an afterschool tutoring program close to the bank where mother is manager for help with the learning problems.

Likelihood LD? 0 1 2 3 4 5 6 7 8 9 10 Likelihood EMI? 0 1 2 3 4 5 6 7 8 9 10

LYN is an 8 year old 3rd grader referred for special education services. Lyn has to be made to do things and needs constant encouragement to complete tasks. Lyn disrupts games by refusing to follow rules, interferes with others activities and is unreliable. Lyn obtained a score of 88 on verbal IQ on the WISC-R. Performance IQ measured 91. Full scale IQ was computed to be 89. Mother works for a cleaning service and is trying to find a better place to live. She hopes Lyn will feel more secure and self-confident and less demanding of adult attention once their situation improves.

Likelihood LD? 0 1 2 3 4 5 6 7 8 9 10 Likelihood EMI? 0 1 2 3 4 5 6 7 8 9 10

JACKIE is a 7 year old 2nd grader who has been referred for special education services. Jackie is conscientious, considerate of others, and assumes responsibility. Jackie organizes leisure time appropriately and explores surroundings to find things to do. On the WISC-R Jackie obtained a score of 85 for verbal IQ and 85 for performance IQ. Full scale IQ was computed to be 84. The maternal grandmother, with whom Jackie lives, seem to care very much about Jackie's school difficulties. Grandmother is in poor health and says Jackie worries about how they will get food and medicine. This may affect Jackie's ability to perform in school.

Likelihood LD? 0 1 2 3 4 5 6 7 8 9 10 Likelihood EMI? 0 1 2 3 4 5 6 7 8 9 10

GERRY is a 6 year old 1st grader referred for special education services. Gerry has difficulty throwing and catching a ball and runs and jumps awkwardly. Gerry does not respond in complete sentences, and must be given instructions one at a time. Gerry is very slow at completing tasks. On the WISC-R Gerry scored 60 on verbal IQ. Performance IQ measured 60 also. Full scale IQ was computed to be 56. Gerry's father and mother report that Gerry has been difficult to manage at home, but that progress has been made since they have had Gerry in individual tutoring and since father has relinquished some job demands to subordinates in his company so that he can spend more time with Gerry.

Likelihood LD? 0 1 2 3 4 5 6 7 8 9 10 Likelihood EMI? 0 1 2 3 4 5 6 7 8 9 10

JAMIE is a 6 year old 1st grader referred for special education services. Jamie is able to initiate activities, and is dependable and responsible. Jamie gets to and from school alone, can use the telephone appropriately, and takes care of clothing. On the WISC-R Jamie obtained a verbal IQ score of 65, and a performance IQ of 70 which computes to a full scale score of 67. Jamie lives with father and two younger siblings. Jamie frequently misses school to care for the two younger children while father works at a gas station. Father is very concerned about Jamie's schoolwork even though he seems somewhat overwhelmed by his present situation.

Likelihood LD? 0 1 2 3 4 5 6 7 8 9 10 Likelihood EMI? 0 1 2 3 4 5 6 7 8 9 10

LOU is an 8 year old 3rd grader who has been referred for special education services. Lou has difficulty engaging in an assigned activity and has to be made to do things. Lou jumps from one task to another unless constantly reminded to attend to the task at hand. Also, Lou sometimes threatens others and damages their property. On the WISC-R Lou obtained a score of 85 for verbal IQ. Performance IQ measured 102. Full scale IQ was computed to be 92. Because mother and father teach at the local university, they are aware of agencies where they can receive help with Lou's problems. They have enrolled Lou in the local reading clinic and see some improvement. However, they are open to help and advice from school.

Likelihood LD? 0 1 2 3 4 5 6 7 8 9 10 Likelihood EMI? 0 1 2 3 4 5 6 7 8 9 10

LAUREN is an 8 year old 3rd grader who has been referred for special education services. Lauren seems interested in other children and offers to help when asked. Lauren can be sent on errands and make small purchases. Lauren expresses pleasure or anger vocally and reads suitable books. On the WISC-R Lauren obtained a verbal IQ score of 88 and a performance IQ score of 91, for a full scale score of 89. Father is concerned about Lauren's schoolwork and spends time helping Lauren in the evenings in spite of being very busy with his engineering business. The parents also feel that outside experiences such as trips and cultural events will help Lauren's achievement in school.

Likelihood LD? 0 1 2 3 4 5 6 7 8 9 10 Likelihood EMI? 0 1 2 3 4 5 6 7 8 9 10

DALE is an 8 year old 3rd grader who has been referred for special education services. Dale is helpful and considerate of others, particiates in group games and activities, and shares and takes turns. Dale takes care of clothing and uses money for simple purchases. On the WISC-R Dale scored 81 for verbal IQ. Performance IQ measured 96. Full IQ was computed to be 89. Dale receives help at home on school work primarily from mother. However, the whole family is very supportive with father expressing interest and concern by attending conferences at school even though he must leave his consulting firm to do so. They have offered to hire a private tutor if school personnel think it would help.

PAT is a 7 year old 2nd grader referred for special education services. Pat becomes easily discouraged, does not pay attention to instructions, and cannot complete tasks without constant encouragement. Pat cannot be sent on errands in the neighborhood, or be depended upon to take care of belongings. On the WISC-R Pat attained a verbal IQ score of 63; performance IQ measured 67. Pat's full scale IQ was computed to be 65. Mother reports that some of Pat's difficulties might be due to the fact that she can't afford proper housing on her pay as a waitress. Currently Pat does not attend school regularly due to inadequate clothing for the weather. Mother hopes this situation will be corrected soon.

CHRIS is a 7 year old 2nd grader who has been referred for special education services. Chris has difficulty relating to peers partly because of not taking turns and not sharing. Chris teases and picks on others. Chris gets upset if given a direct order, and has a negative attitude toward rules. On the WISC-R Chris achieved a score of 85 on verbal IQ. Performance IQ measured 85. Full scale IQ was computed to be 84. Chris's parents report that father has just been promoted to a new job as director of marketing which requires him to travel and entertain business associates. Therefore, Chris may be feeling neglected at the present time but they believe once father is established, Chris's performance will improve.

AUBREY is an 8 year old 3rd grader who has been referred for special education services. Aubrey shows no interest in participating in games, is apathetic and unresponsive, and does not mix well with others. Aubrey is often late for school, is careless with toys and supplies, and is unreliable. Aubrey obtained a score of 78 on verbal IQ on the WISC-R. Performance IQ measured 93. Full scale IQ was computed to be 84. Mother reports that Aubrey has no friends in the neighborhood partly because it is unsafe. Mother works as a custodian and as soon as she finds a better job she wants to move to a nicer area.

KELLY is a 7 year old 2nd grader who has been referred for special education services. Kelly initiates group activities with other children, and shows an interest in others. Kelly goes on errands for simple purchases, gets to and from school alone and can tell time. On the WISC-R Kelly obtained a verbal IQ score of 73. Performance IQ measured 65. Full scale IQ was computed to be 68. Mother reports that Kelly has friends in the neighborhood, especially in the skiing class and church group Kelly attends. The live-in babysitter who cares for Kelly while mother works as the personnel manager of a local company is a special friend of Kelly's.

APPENDIX B

INDICATORS OF INDEPENDENT VARIABLES

APPENDIX B

INDICATORS OF INDEPENDENT VARIABLES

Adaptive Behavior Indicators

Adaptive Behavior--High

Jamie — Able to initiate activities, dependable and responsible, gets to and from school alone, can use the telephone, takes care of own clothing.

Kelly — Initiates group activities with other children, shows an interest in others, goes on errands for simple purchases, gets to and from school alone, can tell time.

Jackie — Conscientious and assumes responsibility, considerate of others, organizes leisure time appropriately, explores surroundings to find things to do.

Marty — Takes care of clothing, travels around the neighborhood alone, makes simple purchases, responds when talked to, speaks in simple sentences.

Adaptive Behavior--High (Continued)

Lauren — Interested in other children, offers help if asked, can be sent on errands and can make small purchases, expresses pleasure and anger vocally, reads suitable books.

Jody — Gets to and from school alone, shows good large motor control, pays attention to a purposeful activity, can be depended upon to care for personal belongings, shows consideration of others feelings.

Robin — Asks questions appropriately, understands instructions, is sociable with others, performs chores around the house, is dependable in carrying out responsibilities.

Dale — Helpful and considerate of others, participates in group games and activities, shares and takes turns, takes care of clothing, uses money for simple purchases.

Adaptive Behavior--Low

Pat — Easily discouraged, does not pay attention to instructions, cannot complete tasks without constant encouragement, cannot be sent on errands in the neighborhood, or be depended upon to take care of belongings.

Adaptive Behavior--Low (Continued)

Gerry	Difficulty throwing and catching a ball, runs and jumps awkwardly, does not respond in complete sentences, must be given instructions one at a time, slow at completing tasks.
Lyn	Has to be made to do things, needs constant encouragement to complete tasks, disrupts games by refusing to follow rules, interferes with others activities, is unreliable.
Lee	Needs help getting coat and boots on, gets lost when outside the schoolroom, moves very slowly and sluggishly, does not respond when talked to, does not pay attention to an activity for longer than 5 minutes.
Chris	Difficulty relating to peers because of not taking turns and sharing, teases and picks on others, gets upset if given a direct order, negative attitude toward rules.
Tracy	Cannot name the days of the week, cannot tell time, cannot run errands in the neighborhood, cannot be depended upon to take care of personal belongings, resents teachers and other authority figures.

Adaptive Behavior--Low (Continued)

Aubrey	Shows no interest in participating in games, is apathetic and unresponsive, does not mix well with others, often late for school, careless with toys and supplies, is unreliable.
Lou	Difficulty engaging in an assigned activity, has to be made to do things, jumps from one task to another unless constantly reminded to attend to the task at hand, threatens others, damages others property.

Verbal/Performance IQ Discrepancy Indicators

Verbal/Performance IQ Discrepancy--High

Name	Verbal IQ	Performance IQ
Lee	54	71
Tracy	56	72
Aubrey	78	93
Marty	55	74
Lou	85	102
Jody	52	73
Robin	84	101
Dale	81	96

Verbal/Performance IQ Discrepancy--Low

Name	Verbal IQ	Performance IQ
Pat	65	67
Gerry	60	60
Lyn	88	91
Jamie	65	70
Chris	85	85
Kelly	73	65
Jackie	85	85
Lauren	88	91

IQ Indicators

IQ--High

Name	Score
Lyn	89
Chris	84
Aubrey	84
Jackie	84
Lou	92
Lauren	89
Robin	91
Dale	89

IQ--Low

Name	Score
Pat	63
Gerry	56
Lee	61
Jamie	67
Tracy	62
Kelly	68
Marty	63
Jody	60

Socioeconomic Status Indicators

Socioeconomic Status--High

Gerry	In individual tutoring, father relinquished some job demands to subordinates so he can spend more time with Gerry.
Chris	Father promoted to a new job as director of marketing, requires travel and entertaining business associates.
Tracy	Engaged a therapist to help with social problems, enrolled in tutoring program for help with learning problems, mother is bank manager.
Kelly	Friends in skiing class and church group, live-in babysitter while mother works as personnel manager of local company.
Lauren	Father spends time helping with homework in spite of being busy with engineering business, participates in outside experiences such as trips and cultural events.
Jody	Mother and father both teachers, believe it is important to spend time with child talking about daily tasks and activities, outside experiences to foster social and intellectual growth.

Socioeconomic Status--High (Continued)

Dale	Family attends conferences and school functions even though it means father leaves his consulting business, offered to hire private tutor.

Socioeconomic Status--Low

Pat	Can't afford proper housing on her pay as a waitress, does not attend school regularly due to inadequate clothing for the weather.
Lyn	Mother works for a cleaning service, is trying to find a better place to live.
Lee	Mother and father both work part-time in a nursing home, father and mother concerned but so many personal and economic problems.
Jamie	Lives with father and two younger sibs, misses school to care for sibs while father works at a gas station.
Aubrey	Lives in unsafe neighborhood, mother works as a custodian, as soon as she finds a better job she will move to a nicer area.
Jackie	Lives with grandmother who is in poor health, worries about where to get money for food and medicine.

Socioeconomic Status--Low (Continued)

Marty	Works long hours at a local restaurant, mother shows impaired ability to provide for emotional and physical needs.
Robin	Lives with mother and two older sibs who care for Robin while mother works in a laundry, mother is concerned and tries to do what's best in spite of limited financial resources.

APPENDIX C

COVER LETTER

April 8, 1985

Dear Colleague:

Your professional opinion is needed to complete this research. Please take a few minutes of your valuable time to fill out this questionaire.

After you finish the questionaire, tear off and keep the top portion of the double coupon. Leave the other half stapled to the questionaire and send both to me-- Joanne Witte --by courier. Hill--So. Mezz. 887-3116

To show my appreciation for your help, a drawing will be held on Wed. April 24, 1985, and two winners will be selected from the coupons that are returned. First prize will be a $10.00 gift certificate from Mt. Jack's Restaurant, and second prize will be five lottery tickets. The winning numbers will be posted at Hill-So. Mezz., Beekman, North, Team offices, and each Secondary Special Education office.

Your participation is, of course, voluntary, and I assure you that your responses will be kept anonymous.

Sincerely,

Joanne

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