An analysis of student-specific variables and their use by evaluation teams in determining the special education placement of third, sixth and ninth grade students.

Craig Jurgensen
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AN ANALYSIS OF STUDENT-SPECIFIC VARIABLES AND THEIR USE BY EVALUATION TEAMS IN DETERMINING THE SPECIAL EDUCATION PLACEMENT OF THIRD, SIXTH AND NINTH GRADE STUDENTS

A Dissertation Presented

by

CRAIG JURGENSEN

Submitted to the Graduate School of the University of Massachusetts in partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

February 1993

School of Education
AN ANALYSIS OF STUDENT-SPECIFIC VARIABLES AND THEIR USE BY EVALUATION TEAMS IN DETERMINING THE SPECIAL EDUCATION PLACEMENT OF THIRD, SIXTH AND NINTH GRADE STUDENTS

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DEDICATION

To

Jude and Eva

for more

than being there.

And, for mom and dad.
ACKNOWLEDGMENTS

When I first began this project several, well, many, years ago, it was my intention to complete it and all of my other degree requirements as quickly as possible and return to the Northwest. But my roots grew more quickly and deeply than I'd planned or initially wanted. What was at first old, small, lackluster, but too trendy, New England soon became, and appears will remain, home. For this I have to thank the people, who in spite of myself, guided me in many rewarding directions but made certain that the original goal of my stop (stay) in New England was not overlooked.

My sincere appreciation to Dr. Stan Scarpati for his continued and unqualified support and just the right measure of critical redirection. I want to thank Dr. Ronald Hambleton for sparking my interest in test theory and development, as well as for his support of this project. To Dr. Robert Feldman I owe a debt of gratitude for his unwavering support and input in spite of my long absences and infrequent contact. I think a special thanks to Drs. Scarpati, Hambleton, and Feldman—"my committee"—is needed because they always worked together with, and for, me and helped to make my "comps" and the "Big D," as Judy refers to it, solid and meaningful.

I would also like to thank Dr. Patricia Gillespie-Silver for her friendship and support. I learned much from the training and writing projects we completed together.

The focus of my study and the direction of my career has changed significantly since beginning this project. I hope time will continue to demonstrate that these changes were correct ones for me and that my efforts on this project will help those of us who work in special education to look
more critically at what it is we do. What we do needs to be done and needs to be done well with integrity and knowledge.
ABSTRACT

AN ANALYSIS OF STUDENT-SPECIFIC VARIABLES AND THEIR USE BY EVALUATION TEAMS IN DETERMINING THE SPECIAL EDUCATION PLACEMENT OF THIRD, SIXTH AND NINTH GRADE STUDENTS

FEBRUARY 1993

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Special education placement determinations, due to State and Federal legislation, are largely the responsibility of an evaluation team convened to develop an Individualized Education Program (IEP) designed to ensure that each student receives a free and appropriate public education. Decisions about individual students require the sharing and synthesis of student-specific information by members of the Team. In Massachusetts, the lack of specific entry and exit criteria within the definition of a "child in need of special education" does not restrain the interpretation or weight Teams attribute to the student-specific information they use to make placement determinations. Consequently, this variability is frequently cited as a primary contributor to the state's high special education enrollment figures. The purpose of this study was to compare information from the records of special needs students with the reports of evaluation Team members on the importance of the information in determining the amount of special education services a student receives.

The study collected student-specific information from the IEP and special education records of 150 special needs students in grades 3, 6, and 9.
Questionnaires were mailed to 250 special education directors, parents, special education teachers, school principals, and school psychologists. The questionnaire asked the participants to indicate their feelings about the importance and use of the same student-specific information that was collected from the student records.

Research questions that guided this study were designed to compare the predictions about the amount of special education services a student receives based on IEP and student record information with the importance and use of the same information as reported by members of evaluation Teams. Specific findings suggest that:

1. Within the set of student-specific information analyzed, there is no subset of data can be used to reliably predict the amount of special education a student receives.

2. Between group differences among students suggest that the differences are artifacts of legal procedural requirements rather than specific student characteristics such as handicapping conditions or academic deficits.

3. Team members agreed that reading and math achievement and intelligence are the most important factors in making placement decisions. Mainstreaming opportunities and student behavior were also perceived to be of primary importance.

4. Team members believe that placement decisions are influenced by the Team's composition and are not based primarily on specific student information.

The implications and limitations of the study are discussed with recommendations for further research and changes in the Team evaluation process.
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CHAPTER 1
INTRODUCTION

As recently as 1970 handicapped children, almost without exception, were excluded from public school programs. Both the physical setting of their special education environments and the quality of the services they received separated handicapped children from their "normal" peers. Handicapped children were perceived as members of categories rather than as individuals. Inclusion or exclusion from programs and services was based on disability. Services to children in some categories were more readily available and of a higher quality than others.

The way in which handicapped children were educated began to change very quickly. The 1971 court decision in the Pennsylvania Association for Retarded Citizens v. the Commonwealth of Pennsylvania (PARC v. Penn), though not without public controversy and dissent, maintained that all students could benefit from, and were entitled to, a free and appropriate education. The decision also maintained that parents had due process rights in the classification and placement of their children and that students with disabilities had a right to be educated in the least restrictive environment. In 1972 Mills v. Board of Education of the District of Columbia determined that it was unconstitutional to exclude handicapped children labeled as mentally retarded, emotionally disturbed, behaviorally impaired, or hyperactive from educational programs and that these handicapped children have a right to a "constructive education" and equal protection of the law (Ysseldyke & Algozzine, 1982). These two court cases, together with the precedent established by Brown v. Board of Education, were among the most influential in the development of state and federal special education mandates directed
at improving services to handicapped children and moving these children into integrated settings.

In 1972 Massachusetts adopted The Comprehensive Special Education Law (Chapter 766) to provide "special education program opportunities for all children requiring special education . . . (and) to remedy past inadequacies and inequities." Similarly, federal legislation in 1975, the Education for All Handicapped Children Act (Public Law 94-142), guaranteed the right of handicapped students to a free and appropriate public education in the least restrictive environment.

During its first year of implementation, 1976-77, approximately 3,692,000 (Tugent, 1985) students ages 3 to 21 were provided with special education services through P.L. 94-142 (renamed the Education of the Handicapped Act to the Individuals with Disabilities Education Act—IDEA—by the Education of the Handicapped Act Amendments of 1990). The number of students served by special education increased to 4,587,370 for the 1988-89 school year (U.S. Department of Education, 1990). At the state level, the number of students served through the provisions of Massachusetts Chapter 766 experienced similar growth. The number of students receiving special education in Massachusetts increased from 81,314 (6.8% of total enrollment) during the 1974-75 school year to 143,685 (17.0% of total enrollment) during the 1990-91 school year (Massachusetts Department of Education, 1991a).

Abeson and Zettel (1977) called P.L. 94-142 the "end of the quiet revolution" to secure equal educational opportunity for handicapped students. Bateman and Herr (1981), on the other hand, stated that in order for special education to comply with the mandates of the law "a major and not yet widely understood revolution" (p. 352) would be necessary. Their argument was that traditional models of special education could not easily be
replaced by one which was legally mandated. They cited basic elemental and procedural differences between the two models in placement, categorization, program implementation, and the involvement of parents.

Special education practice prior to the passage of P.L. 94-192 and Chapter 766 was characterized as simplistic, expedient, and based on categorically provided services (Bateman & Herr, 1977; Reynolds & Birch, 1977). Prior to the legal mandates, the process was straightforward: children were identified as handicapped, placed in programs that provided services for students with their particular handicapping condition, and taught according to the educational and behavioral characteristics of the particular disability label.

Although there is much discussion within current special education practice to suggest that eligibility for special education should be based on the results of student performance on standardized tests both P.L. 94-192 and Chapter 766 require that placement decisions concerning individual students must include information drawn from various sources (parent reports, classroom observations, behavioral inventories) in addition to the more objective test data. The intent of the legislative guidelines is to protect students from singular and arbitrary placements in stigmatizing or inappropriate settings. The result, due to the complexity of the process created to ensure fairness and equal access, actually may be that decision-makers are forced into making choices between conflicting conclusions and placement options which are often presented in "either-or" terms.

**Statement of the Problem**

Proponents of special education laws concede that in order to ensure equal access to special education and simultaneously guarantee due process safeguards, identification accuracy may have to suffer. These advocates assert
that if errors in identification are to be made it is certainly better to err along "better safe than sorry" lines. That is, false-positives are more forgivable than false-negatives and that if errors are to be made, over identification of students with special needs is better than under identification.

However, even the advocates for special needs students have recently questioned many current trends in special education placement (Massachusetts Advocacy Center, 1987). In addition, increasing concerns over the costs of special education together with the avid promotion of the Regular Education Initiative (e.g., Reynolds, Wang, & Walbert, 1987; Stainback and Stainback, 1984; Will, 1986) have highlighted the need to balance the provision of special education services for those students who require them with a defensible process of identification and eligibility certification.

The tendency to over identify students who are not succeeding in regular education programs as "special needs" is of concern for several reasons. Weatherley and Lipsky (1977) state that the evaluation and planning process "has come under attack as being unduly arbitrary, culturally biased, and often motivated more by the desire to get rid of troublesome youngsters than to educate them" (p. 174). The inequitable placement and over representation of some minority groups in special education (Finn, 1982; Tucker, 1980) has raised concerns about the identification process and resulted in legal challenges such as Diana et al. v. State Board of Education (1969) and Larry P. v. Riles (1972). The variation of criteria in identifying students (Semmel, 1984; Shepard and Smith, 1981), the efficacy of various classification schemes (Reynolds and Birch, 1978; Hobbs, 1975), and the soundness of currently accepted tests and assessment procedures (Galagan, 1985; Salvia and Ysseldyke, 1988) are also under scrutiny.
Massachusetts ranks first among the states in the number of public school students placed in special education programs. The state's special education placement rate of 17.1% compares with a national average of about 12% (Interagency Working Group on Special Education, 1988). Though it is doubtful that any single factor is responsible, possible explanations, in addition to those previously cited, include the state's leadership in passing special education legislation and the activity of the state's child advocacy groups. Early passage of Chapter 766 produced a wide range of program options for students and established an identification process that may be more effective than that implemented in other states. The work of advocacy groups to ensure that special needs children are afforded the services mandated by state and federal regulations may also contribute to the higher percentage by raising the expectations and awareness of parents whose children may require special education.

Purpose of the Study

The purpose of this study is twofold: (a) to determine which factors, or combination of factors, are the best predictors of the amount of special education (measured in hours per week) third, sixth, and ninth grade students receive, and (b) to compare the resulting "best predictors" with the role they are perceived to have in placement decisions as gathered from the individuals who have primary responsibility for making decisions about special needs students.

The specific research questions to be addressed in study are:

1. What variables most reliably predict the amount in hours of special education intervention a student receives?
2. Do age and gender affect decisions made about special education placement?

3. What factors are perceived to be the most important by Team members in making placement decisions?

4. Do the factors that are most important in predicting special education placement differ from the importance attributed to them by members of the Evaluation Team?

5. How much agreement exists both between and among Evaluation Team members about the importance of the factors used to make placement decisions?

6. Do the factors that affect special education placement, as measured by either the prediction equations or the Evaluation Team member's perceptions—or both, suggest a model or process for more reliably and efficiently placing students in special education programs?

7. Do the factors that affect special education placement, as measured by either the prediction equations or the Evaluation Team member's perceptions—or both, suggest differences in the role student-centered and environmentally specific factors have in placing students in special education programs?

Definition of Terms

Evaluation Team: An evaluation team (Team) is the group of people who meet to write a student's Individualized Education Plan. Although membership varies, the Team generally includes the child's parents, classroom teacher(s), special education teacher(s), school psychologist, an administrator or other representative of the school committee and other
individuals who have conducted assessments as part of the student's evaluation.

Individualized Education Plan (IEP): The IEP is a written plan containing a description of a special needs student's educational program. Each IEP contains a statement of the student's current performance levels, general goals, and specific objectives, as well as statements regarding the amount of time the student will spend in special education programs, transportation requirements, participation in state mandated testing programs, ability to follow the school's discipline policy, and the teaching techniques, approaches, and methodologies that will be used to help the student achieve the general goals and specific objectives.

Least Restrictive Environment (LRE): The practice of placing special needs students in a program that allows for the greatest possible integration of the special needs student with students who are not in need of special education. Conceptually, least restrictive environment is the operationalization of the philosophical principles of mainstreaming.

Program Prototype: A special needs student's "prototype" refers to the general special education program categories in which a special needs student in Massachusetts is placed. The most salient characteristic of each program prototype, according to the Chapter 766 Regulations, is the amount of time the student spends outside of the regular education environment. The program prototypes are identified by the Regulation's chapter and paragraph that describes the specific requirements of each prototype. For example, 502.1 is a regular education program with modifications with no time spent outside of the regular education program; 502.2 is a regular education program with no more than 25% of the student's school day spent outside of the regular
education classroom; 502.3 is a regular education program with no more than 60% of the student's school day spent out of the regular classroom.

Related Services: The support services required to assist a handicapped student benefit from special education.

Special Education: The specially designed instruction described in the IEP that is necessary to meet the unique needs of a handicapped student.

**Delimitations of the Study**

The results of this study are delimited in six ways. First, data were collected from school systems that granted limited access to their special education records. The act of granting research access to student records sets these systems apart from those that either did not grant access or did not respond to the request for access. Although this study makes no judgment about the administrative procedures of those systems from which data were collected, the record keeping and record organization varied greatly from district to district and, to a lesser extent, from student to student within the districts.

Second, the Chapter 766 Regulations specify the requirements school districts must follow in the administration and provision of special education services. School districts implement these requirements according to locally developed policies and procedures. These policies and procedures reflect the nature of the community, its resources, and the special education administrator's knowledge and interpretation of the Regulations. Whereas all of the school districts accept their obligation to provide a special needs child with a free and appropriate public education in the least restrictive environment as required by both state and federal law, one may do so according to the letter of the law while another may endeavor to go beyond this and do so in the spirit of the law, a difference that is reflected in the students accepted into special education.
Third, the results of this study do not allow for a comparison of school districts. Not only do the first two limitations of the study advise against between district comparisons but the collection of student data was not designed or carried out in such a way that valid or reliable comparisons can be made. Factors such as the range of placement and service options available within a district or the district's per pupil expenditure, among other factors, were not controlled.

Fourth, a comparison of the special needs students used in this study can not be made with non-special needs students or with special needs students in more restrictive settings (i.e., segregated special programs or private day or residential schools). Comparisons are limited to special needs students in 502.1, 502.2, and 502.3 program prototypes.

Fifth, test scores and assessment data are influenced by assessor-student rapport during evaluations and by the professional competence, training, and experience of the each assessor. Likewise, school districts vary in the way they conduct assessments. Some systems require that all formal standardized tests be conducted, scored, and interpreted by a certified school psychologist while others may allow special education teachers to complete some or all of the testing, and other districts may contract with local clinics or independent evaluators for testing. Similarly, the development of IEP goals and objectives included in an IEP is influenced by the professional competence, experience, and workload of the special education teacher who develops a student's IEP following an evaluation Team meeting.

Finally, this study cannot reassess or evaluate the accuracy of the decisions made about individual students. Evaluation Teams tend to weigh discrete pieces of assessment and anecdotal information differently. The dynamics of each evaluation Team, the amount, type, and quality of
information available, and access to special education services often leads to widely discrepant decisions even when the characteristics of the individual student may appear very similar.

**Significance of the Study**

Referring a child for a special education evaluation because he or she is not making effective progress in school and is suspected of being handicapped or disabled is a difficult and significant decision. It may be made with the good intention of obtaining support and assistance to enable the student to achieve academic success and progress according to his ability but it also places the student at extreme risk for the loss of self-esteem that frequently accompanies a focus on deficits and failures, as well as the stigma of being singled out for assessment.

The risk, however, may be justifiable if students who are disabled and need assistance are identified and served. The members of the evaluation Teams who make these decisions rely on specific information about the student to guide and direct them. When the Team considers the available information, agrees on its meaning, importance, and interpretation, it increases its opportunity to make a "correct" decision about the student's strengths, weaknesses, and the appropriate program of educational intervention. When Team members perceive the data in significantly different ways and are unable to agree on its meaning, importance, and interpretation, the results may be procedurally-bound compromises or seemingly arbitrary decisions. Procedurally-bound compromises are those that are guided by the legal requirements of special education laws designed to safeguard individual due process rights and guarantee equitable program access but are not generally based upon pedagogical principles or the results of educational research. These compromises serve neither the student nor the
school system since, among other things, they may provide the student with special education services he or she does not need which artificially increases special education enrollment figures or they may return the student to regular education without providing the classroom accommodations he or she needs to make effective progress and therefore fail to address the reasons for which the student was initially referred.

Investigations into the efficacy of placement decisions for mild to moderately handicapped students categorized as mentally retarded, learning disabled, or seriously emotionally disturbed are numerous. The non-categorical nature of the Massachusetts 766 Regulations, however, does not allow for such investigations. This study is significant because it examines and analyzes specific student placement data and provides a comparison with the perceived importance the data is reported to have for evaluation Team members. This comparison will help Team members understand how other participants perceive and use the data available to them, as well as informing Team members about what the data may actually indicate is the "best" decision about the individual students they evaluate and serve.

Second, this study describes the differences found between students in the third, sixth, and ninth grade who receive special education services in 502.1, 502.2, or 502.3 program prototypes. The study highlights significant relationships between the variables of interest and explains the differences within and between the groups examined.

Third, by including both procedurally relevant information and achievement and ability assessment data the study is able to suggest what information is of value and which may be irrelevant, excessive, or redundant. When school budgets and funding are limited it is prudent to improve the efficiency of the identification process by collecting and
considering only that information which makes a contribution to improving the accuracy of the evaluation Team's decision-making process.

Fourth, this study is important because it promotes and encourages the investigation of how special education services can be delivered in a non-categorical system and still be based on rigorous principles and defensible decisions. Examining the perceptions of Team members together with student placement and assessment data will force evaluation Teams and their members to develop more dynamic and thorough strategies to serve and place students according to what is known about individual student needs.

In summary, this study is guided by six research questions, the answers to which, although constrained by the previously stated delimitations of the study, are significant in their contribution to improving the quality of services to special needs students by increasing the efficiency with which decisions about these services are made. The remainder of the study is organized into four chapters. Chapter II provides the reader with a review of the literature pertinent to the study. It includes an historical overview of special education, a discussion of the Massachusetts Chapter 766 system of non-categorical services to special needs students and Team evaluation process, the concept of least restrictive environment, and special education assessment. Chapter III describes the methodological procedures employed in the collection and analysis of the data. Chapter IV presents the results of the study. It first details the analysis of student-centered data as collected from special education records and then provides the results of the analysis of questionnaire data as received from participating evaluation Team members. Chapter V discusses the meaning and use of the study's results in light of the need to improve the accuracy and efficiency of the special education Team evaluation process.
CHAPTER 2
REVIEW OF THE LITERATURE

This chapter is divided into six sections. The first section is an historical review of the events that led to the passage of P.L. 94-142, the Education for All Handicapped Children Act of 1975. Special education practices and the legal challenges to them which led to legislative action through P.L. 94-142 are presented. Several key provisions relevant to the identification and placement of handicapped children in the 1975 legislation are discussed.

The second section presents an examination of the provisions of the Massachusetts special education process as outlined by Chapter 766, the state's special education law. A comparison with the federal law is presented. Of particular note is the noncategorical approach to the identification and placement of special needs students.

Next, the concept of least restrictive environment is presented. This concept, included in both the federal and state special education legislation, is discussed in some detail since it is pivotal in special education placement decisions.

The fourth section of this chapter is a discussion of special education assessment. It presents the different purposes of assessment in special education, the types of data each provides for consideration in Team decisions, and a general look at how the data is used to make decisions.

The fifth section of this chapter addresses the Team decision-making process in the placement of special needs children. The procedural requirements of the process as mandated by Chapter 766 are presented with reference to the other information presented in this chapter. The evaluation Team's responsibility is to address the child's educational needs that are
identified by the assessment data which cannot be met through the efforts of regular education and to do so in the least restrictive environment.

Finally, a brief summary of the previous five sections is presented.

**Historical Review**

In 1962 Reynolds proposed "a continuum of placements" for handicapped children and presented "mainstreaming" its first serious public airing (Biklen, 1985). Dunn (1968) challenged the efficacy of special class placement for "socioculturally deprived children with mild learning problems who have been labeled retarded" (p. 5). Dunn questioned both the inordinate number of minority children labeled mentally retarded and the special education practice of homogeneously grouping mentally retarded children in segregated special classes. Studies of special education's effectiveness by Johnson (1962), Kirk (1964), and Smith and Kennedy (1967) were interpreted by Dunn to indicate that mentally retarded children "make as much or more progress in the regular grades as they do in special education" (p. 7). In addition to the ineffectiveness of segregated special education programming, the special education placement procedures employed through the 1960's were attacked for many reasons.

Special education practice prior to the passage of federal and state mandates can be characterized as simplistic, expedient, and based on categorically provided services (Bateman and Herr, 1981; Reynolds and Birch, 1977). Abuses of simply matching categorical disabilities and programming with presumed categorical special education need precipitated legal challenges and the professional questioning such as that articulated by, among others, Reynolds (1962), Dunn (1968) and Lilly (1970). Lilly stated that "traditional
special education services as represented by self-contained special classes should be discontinued immediately for all but the severely impaired" (p. 43).

Ross, De Young, and Cohen (1971) summarize the most frequently used arguments against the previous procedures as inadequate testing instruments, "incompetent" test administration, limited opportunity of parents to participate in placement decisions, inadequate special education programming, and the irreparable harm created by inappropriate placements. Ross, De Young, and Cohen cited Hobson v. Hansen, Diana v. State Board of Education, Covarrubias v. San Diego Unified School District, and Arreola v. Board of Education as part of the developing case law in special education placement. The authors concluded that special educators needed to act not only to protect themselves but also to serve the needs of children. They proposed that responses to court orders attempting to prevent inappropriate placements or to remove children from special classes must provide special education alternatives within the framework of regular education classes.

The Pennsylvania Association for Retarded Children's class action suit against the Commonwealth of Pennsylvania in Federal District Court in 1971 (PARC v. Penn, 1971) is frequently credited with legitimizing the idea that handicapped children have a right to access mainstream public education (Abeson & Zettel, 1977; Biklen, 1985). Abeson and Zettel (1977) call PARC the "most heralded and precedent setting right to education lawsuit" (p. 117). The suit charged that the Commonwealth of Pennsylvania had failed to provide all of its retarded school age children with access to a free public education. The PARC decision resolved that the state could not deny mentally retarded children access to a publicly supported education and that all retarded children in Pennsylvania between 6 and 21 were to be provided with a publicly supported education. The court also established the procedural due
process rights of mentally retarded children in accordance with the fifth and fourteenth amendments of the Constitution.

Ysseldyke and Algozzine (1982) report that Mills v. Board of Education of the District of Columbia (1972) resulted in the findings that 1) it is unconstitutional to exclude handicapped children labeled as mentally retarded, emotionally disturbed, behaviorally impaired, or hyperactive from educational programs; 2) children have the right to due process of law before exclusion from, or classification into, special education programs; and 3) children have a right to a "constructive education" and equal protection of the law. Findings from these court cases, particularly PARC and Mills, served as the foundation for many provisions of later legislative mandates directed at the improving the educational programs for handicapped students.

Prior to 1973 special education was largely uncontrolled by legislative mandate. Among the first acts directly related to special education was the 1958 allocation of one million dollars through the Mentally Retarded Children—Grants for Educating Teachers Act (P.L. 85-926). Its purpose was to train teachers and teacher trainers to work with mentally retarded students (Reynolds & Birch, 1977). The passage of the Rehabilitation Act of 1973 (P.L. 93-112) provided for research and coordinated vocational rehabilitation and independent living programs for disabled persons. Section 504 under the 1978 amendments of P.L. 94-112 extended the guarantees of the 1964 Civil Rights Act to persons with handicaps (Crosson, Browning, & Krambs, 1979).

The 1974 Amendments of the Education of the Handicapped Act (P.L. 93-380) was the predecessor of the P.L. 94-142 and included many of the major provisions of the later legislation. The intent of P.L. 93-380 was to provide:

1. Full educational opportunity to all handicapped children;
2. Funds of unserved handicapped children;
3. Procedural safeguards in identification, evaluation;
4. Nondiscriminatory testing;
5. Education in the least restrictive environment and removal from regular education only when the severity of the handicapping condition made it such that the student's needs could not be met in the mainstream setting.

Public Law 94-142, the Education for All Handicapped Children Act of 1975 (EHA) brought together many of the provisions of previous legislation. The most basic guarantee of the EHA legislation was the provision of a free and appropriate public education in the least restrictive environment. It was the intent of the Congress to address the facts that over 1.75 million children with handicaps were being excluded entirely from public education solely on the basis of their handicap, nearly half of the nation's handicapped children were not receiving appropriate educational services, and much of the exclusion and inappropriate placement was due to the violation of the student's individual rights (P.L. 94-192, 1975, sec. 3, b).

Public Law 94-142 guaranteed special education programming to handicapped students who require it, fairness and due process in decision-making, financial assistance to state and local governments, and an "appropriate" education through the mechanism of the Individualized Education Program (IEP). Public Law 94-142 stated that handicapped children are those who have been evaluated according to the requirements of the regulations and found to be mentally retarded, hard of hearing, deaf, speech impaired, other health impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired, other health impaired, deaf-blind, multi-handicapped, or as having a specific learning disability "who because of those
impairments need special education or related services" (Federal Register, August 23, 1977).

**Massachusetts Special Education—Chapter 766**

Special education identification, placement, and intervention in Massachusetts are regulated by the state's "Comprehensive Special Education Law" (Chapter 766). Although the state must guarantee the same rights and protections as P.L. 94-142, the Massachusetts law is dramatically distinct from the federal law in its noncategorical approach to services. The law was written with a broad and flexible definition of "special needs" so that state agencies would provide more detail in recognition of the variety of characteristics and needs children present (Massachusetts Department of Education, 1986; Weatherly & Lipsky, 1977). Rather than being identified by categorical handicaps (e.g., learning disabled, mentally retarded, seriously emotionally disturbed, or hearing impaired), children in need of special education are placed and described by regulatory descriptors referred to as "prototypes."

Massachusetts and South Dakota are the only states that use a non-categorical classification system for special education. The South Dakota system has two general classifications: Children in Need of Special Assistance and Children in Need of Prolonged Assistance. The South Dakota classifications provide placement options similar to those available through the Massachusetts prototype system but utilizes a two-tiered system which classifies mild to moderately handicapped children as Children in Need of Special Assistance and severely to profoundly handicapped children as Children in Need of Prolonged Assistance (Massachusetts Department of Education, 1987).
Program prototypes refer to the section number of the Chapter 766 Regulations which outline the main program requirements. Each section describes the specific program requirements along a continuum of services which range from the least restrictive to the most restrictive settings. The degree of deviation from the general education program determines a program's position in the continuum with least restrictive programs being those that are most similar to mainstream education.

Chapter 766 Regulations describe the program prototypes and settings in which the special education service(s) is provided or the amount of time in a school day during which a student may be removed from general classroom activities for the delivery of special education services. For example, prototype 502.1 is a regular education program with modifications to the classroom curriculum but not time spent away from the classroom setting; 502.2 is a regular education program with no more than 25% of the school day spent in a special education setting; and a 502.3 prototype is a regular education program with no more than 60% of the school day spent in a special education setting. Additional program prototypes describe the requirements of more restrictive substantially separate, day school, residential school, home or hospital, early childhood, and diagnostic programs (Massachusetts Department of Education 1991b). During the 1990-91 school year, 143,685 students aged 3 to 21 were receiving special education services in Massachusetts. Of this number, 10.22% were in the 502.1 prototype with 47.84% and 14.76% in the 502.2 and 502.3 prototypes, respectively (Massachusetts Department of Education, March 1991a).

As the state's K-12 public school enrollment declined between the 1974-75 and 1989-90 school years, the special education percentage of total school enrollment has risen from 6.8% to 17.1%. In number of students, the special
education population has grown from 81,314 to 143,685 while regular
education enrollment has decreased from 1,202,672 to 844,848. Projecting that
public school enrollments will rise approximately 7% over the next five years,
the Massachusetts State Auditor's Office projects that special education
enrollments will rise from 16.8% (actual enrollment) in 1989 to 19.1% by 1994
(DeNucci, 1991). For the 1993-94 school year this represents a 21.99% change
and an increase of almost 31,000 special needs students of the approximately
63,000 students who are expected to increase the state's total public school
enrollment by 7.47%.

In a survey conducted of the 282 school districts in Massachusetts,
DeNucci (1991) reports that superintendents or their designees, "most often
directors of special education" (p. 34), were asked to estimate the number of
special need students who could be served in regular education programs if
proper support services were available. Respondents indicated that 77.5%,
41.5%, and 28% of the special needs students in 502.1, 502.2, and 502.3 program
prototypes, respectively, could be served in regular education programs with
appropriate support services. DeNucci reports that tutoring, psychological
services, resource room services, and early intervention were the most often
listed services required for mainstream success.

A study by the Massachusetts State Auditor's Office (DeNucci, 1991)
views the rise in students receiving special education services from both
positive and negative points of view. Positive attributes of the Massachusetts
system are reported to be the state's special education law which "goes beyond
the federal law and federal standards by requiring that special education
programs both meet the needs of, and maximize, the capabilities of the special
needs child" (p. ii), increased precision in identifying special needs, and strong
participation in the IEP decision-making process by both parents and
members of advocacy groups. DeNucci's report cites a lack of regular education supports and alternatives, cost increases in special education's individualized service delivery, and the placement of students with emotional difficulties in segregated programs as negative causes for the increase.

An analysis of school census data by the Massachusetts Advocacy Center (Massachusetts Advocacy Center, 1987) revealed several placement trends that the group maintains are inconsistent with the principle of least restrictive environment and the intent of Chapter 766. First, during the period between 1974 and 1985 the number of students in the 502.1 program prototype (a full-time, regular education program with modifications) decreased by 61%. The placement rate for these students fell from 35.3% to 8.3%. Second, the number of students in 502.2 program prototypes (up to 25% of time out of the regular education classroom) rose between 1974 and 1977 but then dropped from a high 62.1% in 1977 to 51.9% in 1985. Third, although the number of students served stabilized during the period from 1979-1984, the number of students placed in 502.3 program prototypes (up to 60% of time out of the regular education classroom) rose 24%. A review of enrollments by headcount (Massachusetts Department of Education, 1991a) through the 1990-91 school year indicates that during the period since the Massachusetts Advocacy Center's 1987 report, 502.1 placements have risen steadily since 1985, 502.2 placements dropped slightly during each school year from 1985-1989 and then began to rise again in both the 1989-90 and 1990-91 school years, and placements in the 502.3 program prototype have risen steadily in each school year since 1974-75.

The intent of the prototype system was to avoid the negative effects of categorical labels and ensure that students with special needs are educated in
the least restrictive environment (i.e., in the setting that most closely approximates the structure and expectations of a regular education classroom) according to their individual needs. A special needs child, regardless of specific handicap(s), is defined as one who...

because of temporary or more permanent adjustment difficulties or attributes arising from intellectual, sensory, emotional or physical factors, cerebral dysfunctions, perceptual factors, or other specific learning impairments, or any combination thereof, is unable to progress effectively in a regular education program and requires special education (Massachusetts Department of Education, 1991b, p. 1).

The definition contains three conditions: 1) temporary or more permanent adjustment difficulties... 2) an inability to progress effectively... and 3) the need for special education—for identification as a "special needs" student and eligibility for special education service(s). In response to a survey, some special education administrators indicated that a student's type of disability (e.g. learning disability, physical handicap, severe emotional disturbance) was directly related to the amount of mainstreaming provided (Massachusetts Advocacy Center, 1987). Since Chapter 766 guards against labeling and categorical identification of special needs students, it is not possible to determine the impact this belief has on practice. Nevertheless, such a position contradicts the notion of individualized educational programming and placement. This broad and flexible guideline requires that educational decisions be made case-by-case and with reference to local interpretation of the standards. While the identification process is tightly regulated by Chapter 766, with regard to procedural safeguards, timelines, and evaluation responsibilities, the determination that a child has a "special need," as well as program development, implementation, and ultimately, prototype assignment, is the responsibility of the evaluation Team.
In 1991 the Massachusetts Legislature enacted Chapter 514 An Act Relative to Special Education in which, among other things, it modified the definition of a "school age child with special needs." This Act also ordered the state's Department of Education to issue "guidelines and regulation changes to ensure clarity and consistency of application" of the new definition and stated that the new definition would apply to all newly referred children as well as to those already identified as children with special needs at the time of their next re-evaluation (Massachusetts Department of Education, 1991c). The new definition was an attempt to address the lack of precision and clarity of language included in the previous definition which referred to special needs children as having "temporary adjustment difficulties." The definition states that a school age child with special needs is a child who...

because of a disability consisting of a developmental delay or intellectual, sensory, neurological, emotional, communication, physical, specific learning or health impairment or combination thereof, is unable to progress effectively in regular education and requires special education services in order to successfully develop the child's individual educational potential; provided, however, that no child shall be determined to be a student with special needs solely because the child's behavior violates the school's disciplinary code; and provided, further, that use of the word disability in this section shall not be used to provide a basis for labeling or stigmatizing the child or defining the needs of the child, and shall in no way limit the services, program, and integration opportunities provided by the child.

The Massachusetts Legislature was careful in the articulation of this definition to preserve the non-categorical nature of the state's special education law while at the same time stressing the more chronic nature of a student's disability and its affect on success—effective progress—in regular education.

The "Eligibility Guidelines for Special Education (Massachusetts Department of Education, 1992) reflect this emphasis. Together with the
Chapter 766 Regulations they are an attempt to address the large numbers of children entering special education by (1) establishing an understanding of the key concepts within the definition of "a school age child with special needs"—disability and effective progress within regular education, (2) explaining the role of assessment in determining whether a child has a disability and is eligible for special education, and (3) providing evaluation Team members with guidance when attempting to establish the relationship between a student's educational progress and the presence of a disability. To do so, both the Guidelines and the Regulations define a disability as the presence of one or more of nine impairments (i.e., developmental delay, intellectual, sensory, neurological, emotional, communication, physical, specific learning, and health).

Least Restrictive Environment

An underlying premise of both Chapter 766 and P.L. 94-142 is that special needs students will be served within the regular education environment except where they are not able to "achieve satisfactorily" with additional supports such as specialized equipment, curricular modifications, and supplementary services. Although decisions about individual students are made by educators and the student's parents and are reviewed annually, the standards for measuring success—"achieve satisfactorily"—and the criteria available for determining regular education involvement—"maximum extent appropriate"—are vague and loose. In addition, a 1991 review of the state's eligibility criteria points to the broad definition of a child with special needs and the lack of eligibility criteria as contributors to discrepant programming and placement, as well as the rising numbers of special education enrollments. The report also proposes that removing students
from regular education classrooms for participation in special education programs is self-defeating since students pulled-out of regular education miss classroom instruction and frequently require, over time, more rather than less special education due to differences in the curriculums of the two programs.

Least restrictive environment (LRE) in concept is the operationalization of "mainstreaming." The concept implies that when a government intervenes in a person's life it must do so with the least intrusion on individual rights (National Information Center for Handicapped Children and Youth, 1987). The notion that students with disabilities have a right to receive their education in the least restrictive environment was first recognized in court cases involving the civil rights of mentally handicapped individuals such as The Pennsylvania Association for Retarded Citizens v. the Commonwealth of Pennsylvania (PARC v. Penn, 1971). The concept of LRE in special education practice was promoted by Reynolds (1962) as a continuum of placements and by Deno (1970) as a cascade of services ranging from least to most restrictive in terms of proximity to regular education settings.

The Massachusetts Chapter 766 prototype system, which is based on Deno's model, defines the least restrictive environment as "the program that, to the maximum extent appropriate, allows a child to be educated with children who are not in need of special education" (Massachusetts Department of Education, 1986, 112.0, p. 3). Furthermore, Chapter 766 requires that "only when the nature of severity of their special need is such that education is a less restrictive educational prototype with the use of supplementary aids and services cannot be achieved satisfactorily" (1986, 500.0, p. 54) may be placed outside of the regular education environment.
Public Law 94-142 is less clear about its mainstreaming provision but guarantees handicapped children a "free and appropriate public education" provided "to the maximum extent appropriate . . . with children who are not handicapped" (121a.550).

The concept of LRE was included in the Massachusetts and federal special education mandates to promote the integration of special needs children with their nonhandicapped peers. Research, as well as practice, had demonstrated that integrating handicapped individuals with their nonhandicapped peers in both education and social settings reduced the stigma of being handicapped, provided opportunities for appropriate modeling of acceptable behavior, and changed the negative attitudes nonhandicapped individuals frequently maintained about the handicapped as a group.

Determining the LRE for a particular child is a relative rather than an absolute task. That is, while a regular education classroom is the least restrictive in absolute terms for the majority of children, it does not represent the least restrictive environment for children whose individuals needs cannot be met within the structure of that setting.

Special Education Assessment

Three primary purposes of assessment in special education are screening, determining eligibility, and instruction (Hargrove and Poteet, 1984). Though the purpose of each activity is not mutually exclusive and the use of the collected data for one purpose is frequently used to complement that of another, many tests are designed more specifically for one purpose than another.
Special education assessment relies on several types of measures to collect data about a student. Assessing children for either screening or diagnostic purposes relies on the use of data collected from sources which form a continuum ranging from qualitative to quantitative (Berk, 1984). Sources of qualitative data include clinical judgment, observation, case studies, and informal measures such as the child's performance on classroom tests and quizzes, diagnostic teaching exercises, and seatwork. Quantitative information relies on the use of formal tests, both norm and criterion-referenced, with psychometrically demonstrated validity and reliability.

The continuum of data suggested by Berk (1984) is comprised of a variety of measurement procedures. The appropriate use of each, and the information it provides depends on the purpose for which it was designed, as well as the specific questions which need to be answered. To dismiss the information gathered by measures from the extremes of the continuum, whether clinical judgment or standardized tests, undermines the strengths of each. That is, consistent and sound decisions regarding the explanation of learning difficulties and the development of appropriate interventions depends on the use of technically defensible tests to gather information in support of clinical judgments and appropriately applied to making decisions about the learning abilities of children, their need for special education, and their eligibility for specific types of intervention.

The evaluation of children suspected of having a special need generally begins by screening those children thought to be "at risk" or in need of more in-depth evaluation from those children who are functioning within the accepted normative range. Children whose performance on screening procedures borders or is not within an accepted performance range are targeted for a more comprehensive and individualized evaluation. Children
whose failure to make effective educational progress (e.g., learn the academic, behavioral, or psychomotor skills of an appropriate norm group) is thought to result from a possible disability or handicapping condition are assessed to determine their eligibility for special education.

The procedures for determining that a child is eligible for special education intervention vary with the suspected handicapping condition. Due to the legal requirements of P.L. 94-142 and many state special education mandates, the process suggests that norm-referenced decisions about the student's abilities and disabilities be made. That is, compared with the performance of children from a similar group, does the child vary to a significant degree, and in such a manner, that his ability to interact with the environment or profit from typical education instruction is impaired?

While these are theoretical principles to suggest it and some school policies demand it, legislative mandates do not require norm-referenced assessment. Criterion-referenced and curriculum-based measurement is favored by some special educators (Algozzine and Ysseldyke, 1986; Choate, Bennett, Enright, Miller, Poteet, and Rakes, 1987; Galagan, 1985; Tucker, 1985; Ysseldyke and Thurlow, 1984). Because criterion-reference and curriculum-based assessment allows direct and continuous measurement and does not depend on a comparison of one child's intellectual and academic abilities with those of another, specific strengths and weaknesses of the child's performance can be evaluated and compared. Children are "certified" as eligible for special education intervention based on absolute rather than relative need. However, the determination that a child is eligible to receive special education services rests on a decision-making process which requires the consideration of assessment information that provides evidence of 1) a temporary or more permanent adjustment difficulty arising from intellectual,
sensory, emotional or physical factors, cerebral dysfunctions, perceptual factors, or other specific learning impairments, or combination of these factors; 2) the child's inability to progress effectively in a regular education program; and 3) the child's need for special education.

**Team Process**

The evaluation Team process outlined in Chapter 766 is initiated by the referral of a child for a special education evaluation. Although the evaluation process was developed and enacted into law to address the special needs of disabled students as defined by the Regulations, the Regulations do not "limit or condition the right to refer a child for an evaluation." (p. 18) That is, while the referral for a special education evaluation was designed to determine whether or not a student has a disability, is not making effective educational progress and therefore requires special education, there is no procedural process or mechanism to screen-out or otherwise limit inappropriate or capricious referrals. Determination of the appropriateness and validity of each referral rests with the outcome of the evaluation Team's decision relative to its interpretation of the information available to it.

While the goal of the evaluation process is the development of an IEP and the delivery of special education to address the student's identified educational needs, deciding whether or not the student requires and is eligible for special education is difficult and complicated.

The Team's first task, following the completion of the required assessments, is to determine whether or not the child requires special education. Guidance provided by the Regulations beyond the definition of a child in need of special education is sparse, stating only that "upon determining that the child requires special education and based on evaluative
data, the Team shall write an IEP for the child and decide the child's placement." (p. 30) Soon after the implementation of Chapter 766, Owens (1975) wrote that "the Regulations to Chapter 766 obscure the law" (p. 36) and that the evaluation Team, according "has the major responsibility for determining how the law will be implemented" and should use "flexibility in programming and sensibility in determining needs" (p. 36).

The assessment information available to a Team will vary to some degree from child to child. All children are evaluated "in all areas related to the child's suspected special need (Chapter 766, 1991, p 28). Assessments are required in the following areas:

1. Specialist(s) Assessment in the area(s) of suspected special need;
2. Educational Status Assessment including a history of the child's education and an overview of his school progress and current standing;
3. Teacher Assessment(s) summarizing the child's achievement and abilities along a developmental continuum.

If a parent requests it or if the information is thought to be relevant to the referral and suspected special need, a health assessment, psychological assessment and home assessment are also completed.

The resulting assessment data serves several purposes and is interpreted and may be perceived in several different ways. First, the information must be used to determine whether or not the student is eligible for special education. It must guide the Team to answers to the following questions:

1. Does the student fit the definition of a child in need of special education?
2. Is the student making effective educational progress?
3. Does the student require special education?
Second, if the Team decides that the student is eligible for special education, the assessment data must provide direction for deciding upon the most appropriate educational intervention(s). Identification and diagnosis of the student's specific strengths and weaknesses require that the Team have available and be capable of interpreting the evaluation data with respect to the provision of effective educational programming. Third, the assessment data should provide assistance to placing the student correctly within the continuum of educational services keeping in mind that placement in the least restrictive environment must be balanced with effective intervention. All things being equal, the Team must consider what it knows about the student it is working to place, as well as what it knows and how it perceives the evaluation information available to it.

Further complicating Team decision-making are factors such as the attention that must be paid by school district staff to the regulatory time constraints, due process safeguards, and procedural minutiae that seem beyond the purpose of special education, as well as the interpersonal dynamics that develop within each Team. The implementation of special education mandates requiring team decision-making, parent involvement, and the development of IEPs initiated an interest in research into the team decision making process. Investigations examined attendance levels (Goldstein, Strickland, Turnbull, & Curry, 1980; Scanlon, Arick, & Phelps, 1981), involvement and participation (Pugach, 1982; Ysseldyke, Algozzine, & Allen, 1982; Yoshida, Fenton, Maxwell, & Kaufman, 1978), outcome satisfaction (Yoshida et al, 1978), and information sharing (Goldstein et al, 1980; Pugach, 1982). Role perceptions were examined by Trailor (1982) and Gilliam and Coleman (1981) collected measures of participants' perceived status in the IEP development process. Pfeiffer (1982) and Pfeiffer and
Naglieri (1983) compared the quality of placement and programming decisions made by individuals with programming decisions made by teams. Ysseldyke, Algozzine, and Allen (1982) concluded from their study of regular education teachers that IEP team meetings are frequently conducted in which "teachers either do not participate, or do so in a superficial manner" (p. 366).

Among the reasons the Massachusetts Advocacy Center cites for their conclusion that less students are educated within the least restrictive environment than could and should be is their conclusion that school systems fail to inform parents of their rights and opportunities for integration (i.e., placement in the least restrictive environment) (Massachusetts Advocacy Center, 1987). The Center's report states that parents are not aware of their right to have special education services delivered to their child within the regular education classroom. Survey results indicated that parents did not know that Chapter 766 requires schools to make curriculum modifications and accommodations for special needs students. The parents reported that they frequently selected more restrictive special education settings because they believed their child would have access to more services and resources, lower teacher-student ratios, better trained teachers, and more accepting attitudes. Further, they report that during annual IEP meetings, discussion of mainstreaming and integration opportunities is "inconsistent and haphazard" (p. 35) because Chapter 766 does not specifically state that IEP Teams must discuss integration. (The 1991 revision of the Chapter 766 Regulations includes this provision, a change that was made in order to bring the Regulations into compliance with federal legislation.)

Additionally, the U.S. Department of Education (1990) reports that data collected from states indicates that special education placements vary substantially by age. Placement of students with special needs in regular
classrooms was greater for younger students than for older students. Of the students in the 6-11 year old age group, 39.7% received most of their special education in regular classrooms as compared to 18% of the students in the 12-17 year old age group. The opposite was true for resource room settings where 35.7% of the 6-11 year olds and 45.8% of the 12-17 year olds received their special education. The data suggest that younger students receive more of their special education services in less restrictive settings than do older students.

When deliberating responses to and perceptions of effective educational progress, Team members are frequently confronted with students who are experiencing academic failure. The question often becomes, "Is the student failing because he or she has a special need or does the student appear to have a special need because he or she is failing?" One indication of academic failure is grade retention. Shepard and Smith (1990) estimate that by the ninth grade approximately half of all students in the U.S. have repeated at least one grade. In a study of students identified as learning disabled, McLesky and Grizzle (1992) reported that 58% of the students had been retained prior to being referred and found eligible for special education. At the third- and sixth-grade levels, they found that approximately twice as many learning disabled students had been retained as students without disabilities. While special education is not a justifiable alternative to grade retention, anymore than it is a correct response to students who are at risk of dropping out of school as Baker and Sansone (1990) suggest, it is the responsibility of school personnel to refer a student for special education when school failure suggests that the presence of an identifiable disability may be responsible for, or contributing to, a student's inability to make effective progress.
Determining who is eligible and who is not eligible for special education is, however, left to the evaluation Team. Whether it is swayed in its decision-making and placement by information about the student that is not essential to its task is difficult to ascertain when definitions are broad and guidance scant. The Team may decide, after putting all of the available information together, that retention is a defensible alternative to special education in one case and that special education is an appropriate and justifiable intervention for preventing a student from leaving school. The variation may be the result of nebulous Team dynamics and politics or it may be the result of different interpretations of evaluation data and perceptions of the importance of the various pieces of information.

Summary

Both EHA and Chapter 766 outline an identification and placement process that places individual student need ahead of categorical considerations. Though differing in detail, the general process of both mandates is similar and includes:

1. Parent involvement and communication throughout the process;
2. Individually developed programs to address educational needs;
3. Program placement according to education need rather than categorical label;
4. Periodic program review to assess effectiveness;
5. Integration in regular education programs.

The elements of the special education process reflect many of the requirements and rights specified by the court cases decided prior to implementation of the laws. The laws, however, were not implemented without challenge or question.
Sapon-Shevin (1976) states that the United States is considered a leader in the provision of special education services largely due to EHA. Concerns about practical issues such as the law's implementation, interpretation, monitoring, intent, and effectiveness were raised by Martin (1976), Bateman and Herr (1981), and Kauffman (1981). Martin stated the laws attempted to correct two false assumptions about handicapped children and the public schools. The first assumption was that handicapped children represented a small, easily defined and categorized population of little concern to the public schools. The second assumption was that the learning problems of these children had little, if any, relevance to regular education. Bateman and Herr predicted that legal challenges would focus on clarifying issues related to evaluation, appropriate programming, placement in the least restrictive environment, and the use of public funds to educate handicapped children. Kauffman stated that, in an attempt to provide handicapped children with their basic educational rights, some Americans believe that the concept of academic equality has been violated.

The dramatic rise in the number of special education students in Massachusetts supports Kauffman's statement. With dwindling financial resources available to all areas of public education, only special education is "protected" by state and federal statutes with firmly established requirements guaranteeing program access and service to disabled students. Evaluation Teams find themselves participating in a process that requires them to identify and serve eligible children but that offers few alternatives to those they decide are not eligible.
This chapter has two purposes. First, it describes the design of the study, the samples of special needs students and Team members, and the data collection procedures used. Second, it presents and explains the procedures used to analyze the data. The selection of special needs students and an explanation of the data collected from each student's special education record is described. This is followed by an examination of the methods used to collect data from evaluation Team members. The chapter concludes with an explanation of the analyses used.

**Design of the Study**

The study was designed to examine the information special education evaluation Teams use to make decisions about the weekly amount of time a special needs student requires and receives. To do this two independent sets of data were collected and analyzed. The two data sets were analyzed and interpreted individually, as well as being broadly compared with one another. The first data set was collected from the special education records of individual special needs students. The second data set was made up of the questionnaire responses of Team members who were asked to provide information about how they use the student-specific information of the variables in the first data set to make decisions about special education services and placement.
Selection of Students and Collection of Data

Selection of Students

The special education records of 150 students in grades 3, 6, and 9 were used to collect data about the variables examined in the study. The students received special education in programs that provided for integration with their non-special needs peers and in some cases required their "pull-out" from regular education programs for up to 60 percent of each school day (i.e., Massachusetts Chapter 766 program prototypes 502.1, 502.2, and 502.3). Each student was receiving special education services during the 1990-91 school year, had a current IEP, and attended public school in one of five western Massachusetts school districts.

Letters were sent to ten western Massachusetts special education administrators requesting permission to review special education records for the study. Follow-up telephone calls were required, and each administrator expressed concerns about preserving the confidentiality of student identities. The administrators were assured that only quantitative information about students would be recorded and that the data would be presented only in aggregate form so that no single student would be identifiable. Access to records in five school districts was obtained after each of the special education administrators had received clearance from their district's superintendent.

The special education administrators were asked to randomly select a total of 30-35 students in grades 3, 6, and 9 who received special education services in program prototypes 502.1, 502.2, or 502.3. The administrators were instructed to select equal numbers of students for each of the three grade levels but randomize for prototype. Equal numbers of records were not reviewed in each school system for three reasons. First, a between-school
district comparison was not an objective of the study. Second, the records provided by the special education administrator for each school district made up the sample for that district. Several administrators volunteered a sample that approximated the request but stated that the selection of records from each of the three grades limited to the prototypes of interest was a difficult and time-consuming process since their records were not organized in these categories. Third, the smaller school districts did not have an equal number of students in the three grade levels. Student special education enrollment at the ninth grade level in these districts did not equal that of the third and sixth grades.

A list of the study's variables of interest was forwarded to each participating school district to ensure that complete special education records were available for data collection. Four school systems granted access to the original file records for the selected students and data was collected by reviewing their IEPs, special education assessment summaries, and psychological reports. One school district reproduced the necessary portions of each student's special education record with identifying information censored (blacked out) in order to guarantee confidentiality.

Collection of Data

Data were collected from each student record on the following variables:

1. Chronological age (months)
2. Special education program prototype (502.1, 502.2, or 502.3)
3. Sex
4. Grade level (3, 6, or 9)
5. Number of persons in attendance at IEP Team meeting
6. Type of meeting (initial evaluation, annual review, or three-year re-evaluation)
7. Total hours of special education per week
8. Total number of IEP goals
9. Total number of IEP objectives
10. Full scale intelligence score
11. Intelligence performance score
12. Intelligence verbal score
13. Math achievement score
14. Reading achievement score
15. Record of school retention
16. Student's history of special education services (months from date of first referral)

Chronological age, program prototype, sex, grade level, and meeting type were recorded from information included on the first page of each student's IEP. Each student's chronological age was computed from his date of birth to the date of his most recent IEP team meeting. The student's date of birth was subtracted from the IEP meeting date and then converted to months.

The number of Team meeting participants was collected by counting the signatures of attendees on the first page of each IEP. The total number of signatures was recorded as the number of persons in attendance at the Team meeting. No attempt was made to record or differentiate the roles of those in attendance.

The total number of long-range goals and short-term objectives for each student was obtained by counting the number of IEP goals listed on the goal page(s) and by counting the number of IEP objectives listed on the objective page(s) of each IEP. Goals and objectives were not separated by content, service or purpose. Where an IEP did not contain goals and/or objectives but did include the appropriate IEP forms, a "0" was recorded and the data
included in the sample as long as the IEP was otherwise complete and signed by the student's parent(s).

The total amount of special education time, measured in hours per week, was collected from the Service Delivery Grid of the IEP. Special education and related services (e.g., occupational therapy, physical therapy, speech language therapy) were included in the total hours of special education per week as long as they were delivered in a special education setting and were indicated to be direct student services rather than consultation services to the student's teachers. IEPs for speech articulation therapy only were not included.

Scores from the Wechsler Intelligence Scale for Children—Revised (WISC-R) were recorded as measures of Full Scale, Performance, and Verbal intelligence. Each student's scores were recorded from the Student Profile or Current Performance Level sections of the IEP or from either the special education assessment summary, psychological report, or actual test record form. Scores were recorded as intelligence quotients (IQ) whenever possible. Where only the sum of scaled scores was available, the scaled scores were converted to IQs for the Verbal, Performance, and Full Scale scores by summing the scaled scores and converting to IQ equivalents using Table 20, IQ Equivalents of Sums of Scaled Scores, of the WISC-R Manual (Wechsler, 1974, p. 151-152).

Achievement test scores for reading and math were recorded from the Student Profile or Current Performance Level sections of the IEP or from either the special education assessment summary, psychological report, or actual test record form. Various achievement tests were used in each of the five different school districts and among the special education teachers and school psychologists who completed the assessments. Reading and math
scores for this study were limited to the Peabody Individual Achievement Test—Revised (PIAT-R) and the Wide Range Achievement Test (WRAT or WRAT-R). Each student's scores were recorded from the Student Profile or Current Performance Level sections of the IEP or from either the special education assessment summary, psychological report, or actual test record form. Standard scores were recorded when listed. Where only raw, grade equivalent, or percentile scores were available, the scores were converted to standard scores (PIAT-R, mean = 100, standard deviation = 15; WRAT-R, mean = 100, standard deviation = 15). Tables from the PIAT-R Manual (Markwardt, 1989) or the WRAT manual (Jastak and Jastak, 1965), or the WRAT-R manual (Jastak and Wilkinson, 1989) were consulted for the conversion of raw or grade equivalent scores to standard scores where necessary.

A student's record of grade retention was gathered from one of several portions of the special education file. The Student Profile or Current Performance Level sections of the IEP, the special education assessment summary, psychological report, or administrative record of educational history were used to determine whether or not the student had repeated a school grade. In some cases, it was necessary to read previous IEPs and reports in order to determine whether or not a student had been retained. Where no mention of previous retention could be found, the student was recorded as "not retained." Each student was recorded as either "retained" or "not retained." No attempt was made to record multiple retentions or to evaluate the reasons for the retention(s).

History of special education services was calculated in months from the date of the original referral to special education. Date of referral was located on referral forms, educational, psychological, or home assessment
summaries, or within the text of some IEPs. In some school districts a chronology of special education involvement was included in each student's record. Each student's history of special education was computed from the date of referral to the date of his last IEP team meeting. The referral date was subtracted from the IEP meeting date and the result converted to months.

Selection of Questionnaire Respondents and Collection of Data

Selection of Respondents

Data about the way in which members of the evaluation Team viewed relevant assessment and related information to make decisions about the amount of time a special needs student requires and receives in special education was collected by questionnaire (see Appendix A and B). Questionnaires were mailed to 50 Team members in each of five groups. The five groups were: (1) administrators of special education; (2) special education teachers; (3) school principals; (4) parents of special needs students; and (5) school psychologists. They were selected from school districts in western Massachusetts. The region was comprised of Berkshire, Franklin, Hampshire, and Hampden counties.

Administrators of special education were selected from the Regional Education Center's listing of school district special education administrators. Special education teachers and school psychologists were selected randomly from the 1990-91 staff roster included in each district's Special Education Annual Program Plan as submitted to the Regional Education Center in December 1990. Rosters were surveyed and the names of special education teachers and school psychologists recorded until 50 names were collected. Only certified special education teachers (Massachusetts Moderate or Severe Special Needs Certification) and school psychologists were included. School
principals were randomly selected from the Regional Center's mailing list of principals. The listing contained the names and mailing addresses of all school principals served by the Regional Center. Beginning with the first name on the mailing list, every fifth name and address was recorded until 50 names were collected. Parents of special needs students were selected from the Parent Advisory Council mailing list maintained by the Regional Center which contained the names of Parent Advisory Council chairpersons.

Collection of Data

The questionnaire was mailed to each participant accompanied by a cover letter (Appendix A) and a stamped and addressed return envelope. A follow-up postcard (Appendix C) was mailed ten days after the questionnaire had been mailed.

The questionnaire included five sections. Section I asked the respondents to rank the importance of ten types of information they might use in making decisions about the amount of time a special needs student requires or receives in special education. Respondents were asked to rank the items from 1-10 ("Most Important" to "Least Important"). The items were:

1. Math ability
2. Reading ability
3. Basic skills scores
4. Chronological age
5. Intelligence
6. Behavior
7. Sex
8. Chapter I participation
9. Previous special education services
10. Cultural background
Section II asked the respondents to use a seven point Likert-type scale to rate the importance of different types of information in making decisions about the amount of time a special needs student spends in special education. Respondents were asked to rate each item from "unimportant" (1) to "important" (7). The items included the same ten types of information included in Section I plus:

1. A student's record of retention
2. Mainstreaming opportunities
3. Team dynamics.

Respondents were asked to answer five "yes" or "no" questions in Section III of the questionnaire. The questions pertained to the amount, interpretation, and usefulness of student information available to Team members, as well as the role of interpersonal dynamics and the decision-making process, in determining special education services. The questions were:

1. Are decisions about the amount of time a special needs student spends in special education based primarily on the information available to the Evaluation Team?
2. Are decisions about the amount of time a special needs student spends in special education based primarily on the interpersonal dynamics of the Evaluation Team?
3. Do all members of the Evaluation Team use the information available to them in the same manner?
4. Does the information about individual students vary in usefulness from student to student?
5. Does the amount of time a student spends in special education depend on the composition of the Evaluation Team?
The next section of the questionnaire included five items designed to obtain background information about the respondents. The five items included 1) gender, 2) sample group (special education administrator, parent of a special needs student, special education teacher, school principal, or school psychologist), 3) number of years in present position, 4) number of years involved with special education, and 5) highest degree earned. The final section of the questionnaire provided space for comments.

Data Analysis

Data collected from the sample of special education records and from the questionnaires for the five respondent groups were compiled into two data sets. The aggregated data collected on the 16 variables from the 150 special needs students formed one data set. Data from the returned questionnaires was tabulated and compiled into a separate data set. Both data sets were analyzed using SYSTAT 5.1 (Wilkinson, 1990) software for the Apple Macintosh computer.

Student Record Information

Descriptive statistics were calculated for the entire data set and for each of the three grade levels of the sample. The maximum value, minimum value, mean value, and standard deviation were calculated for all continuous variables (chronological age—in months, number of persons in attendance at IEP Team meeting, total hours of special education per week, total number of IEP goals, total number of IEP objectives, full scale, performance and verbal intelligence scores, math and reading achievement scores, and each student's history of special education services in months). Frequencies and percentages were calculated for all discrete variables (special education program prototype, sex, grade level, type of meeting, and record of school retention).
Pearson product-moment correlations were computed for the continuous variables to determine the strength of the relationships between the student-centered variables. Bonferroni-adjusted probabilities (p < .05) were computed to determine which of the correlation coefficients, if any, were statistically significant.

Multiple group comparisons were completed using one-way of analysis of variance procedures. Tukey post hoc tests (p < .05) were used to determine the significance of the pairwise mean differences for the multiple group comparisons. Where appropriate, t-tests were used for single group comparisons.

A regression analysis was completed for the entire sample across the three grade levels, as well as individually for each grade level. The dependent variable for each analysis was hours per week of special education. The predictor variables were the continuous measures gathered from the student records. These variables were:

1. Chronological age (months)
2. Number of persons in attendance at the IEP Team meeting
3. Total number of IEP goals
4. Total number of IEP objectives
5. Full scale intelligence score
6. Math achievement score
7. Reading achievement score
8. Student history (months) of special education

The verbal and performance subtest scores of the intelligence measure were omitted from the analysis since they are a linear combination of the full scale score. Additionally, these subtest scores are less meaningful than the
combined full scale score when Team members are weighing the information available to them.

A general linear regression procedure using SYSTAT's stepwise option was used to determine which variables would be included in the model when alpha-to-enter and alpha-to-remove were 0.15. The subset of predictors included in the model were then reanalyzed to estimate the coefficients. This two-step process was necessary since the stepwise option provides only R and R² for each variable included in the model. Calculation of the regression coefficients and standardized coefficients required an additional analysis.

**Questionnaire Data**

Group rankings, means, and standard deviations by group were computed for each item in Section I of the questionnaire. A between group comparison of the mean response for each item was completed using a one-way analysis of variance. A Tukey follow-up test (p < .05) was used to determine the significance of the pairwise comparisons.

The responses to each item in Section II of the questionnaire are reported as means and standard deviations. A between group comparison of the mean response for each item was completed using a one-way analysis of variance. A Tukey follow-up test (p < .05) was used to determine the significance of the pairwise comparisons.

A two-tailed, alpha = 0.05, Chi square test of independence was used to determine whether group membership played a role in answering the five questions in Section III of the questionnaire. The hypotheses tested were:

H₀ = The pattern of response is independent of Team membership role.

H₁ = The pattern of response is not independent of Team membership role.
CHAPTER 4

RESULTS OF THE STUDY

The purpose of this chapter is present the results of the study's comparison of student-specific variables and their use by special education evaluation Teams in determining special education placement. The data collected from the special needs students is presented first. Where appropriate or necessary, the results are explained and comparisons between groups discussed. This is followed by the questionnaire data collected from the evaluation Team members. A discussion and comparison of the student record information with the questionnaire results are presented in Chapter V.

Student Record Data

Sample

The special education records of 150 students in grades 3, 6, and 9 yielded data on the 16 variables of interest in the study. These variables were:

1. Chronological age (months)
2. Special education program prototype (502.1, 502.2, or 502.3)
3. Sex
4. Grade level (3, 6, or 9)
5. Number of persons in attendance at IEP Team meeting
6. Type of meeting (Initial evaluation, annual review, or three year reevaluation)
7. Total hours of special education per week
8. Total number of IEP goals
9. Total number of IEP objectives
10. Full scale intelligence score
11. Intelligence performance score
12. Intelligence verbal score  
13. Math achievement score  
14. Reading achievement score  
15. Record of school retention  
16. Student's history of special education services  

Table 1 presents the sample by grade and program prototype. The sample of student records examined contained 46 students in grade 3, 45 in grade 6, and 59 in grade 9. The mean age of the students was 144.6 months with a standard deviation of 31.734 months and a range from 86 months to 200 months.

Fifty-four students (36%) had repeated at least one previous grade. Of the 54 students who had repeated a grade, 35 (65%) were boys and 19 (35%) were girls. Students in the 502.1 program prototype had the lowest percentage of grade retentions (15%) while students in the 502.2 and 502.3 prototypes were almost equal in the percentage of students retained at 41% and 44%, respectively.

**Description of the Sample**

IEPs developed during annual review meetings comprised 55% of those reviewed. The average Team meeting attendance was five members with a range of from two to 14 people in attendance. The number of IEP goals ranged from one to 15 with a mean of approximately three goals. The IEPs of the ninth grade subjects had the lowest average with 2.4 goals per student while the third and sixth grade subjects averaged 3.3 and 3.5, respectively. IEP objectives ranged from 0 to 48 with a mean of 10.867 and a standard deviation of 9.231 (see Table 2).
Table 1

Student Frequency Data by Grade and Prototype

<table>
<thead>
<tr>
<th>Variable (n)</th>
<th>Grade 3 (n=46)</th>
<th>Grade 6 (n=45)</th>
<th>Grade 9 (n=59)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n(%)</td>
<td>n(%)</td>
<td>n(%)</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male (92)</td>
<td>2(4.3)</td>
<td>6(13.3)</td>
<td>5(8.5)</td>
</tr>
<tr>
<td>Female (58)</td>
<td>4(8.7)</td>
<td>3(6.7)</td>
<td>4(6.8)</td>
</tr>
<tr>
<td>Grade Retention</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes (54)</td>
<td>1(2.2)</td>
<td>5(11.1)</td>
<td>5(8.5)</td>
</tr>
<tr>
<td>No (96)</td>
<td>5(10.9)</td>
<td>11(24.0)</td>
<td>10(22.2)</td>
</tr>
<tr>
<td>Meeting Type</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial (33)</td>
<td>4(8.7)</td>
<td>1(2.2)</td>
<td>0(0.0)</td>
</tr>
<tr>
<td>Annual Review (82)</td>
<td></td>
<td>9(19.6)</td>
<td>13(28.9)</td>
</tr>
<tr>
<td>Re-evaluation (35)</td>
<td>0(0.0)</td>
<td>3(6.7)</td>
<td>6(13.3)</td>
</tr>
</tbody>
</table>
Table 2

Means and Standard Deviations for Student Measures

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>144.600</td>
<td>31.734</td>
</tr>
<tr>
<td>Team Attendance</td>
<td>5.133</td>
<td>2.091</td>
</tr>
<tr>
<td>Hours of Special Education</td>
<td>5.679</td>
<td>4.874</td>
</tr>
<tr>
<td>IEP Goals</td>
<td>3.033</td>
<td>2.310</td>
</tr>
<tr>
<td>IEP Objectives</td>
<td>10.867</td>
<td>9.231</td>
</tr>
<tr>
<td>FSIQ</td>
<td>96.780</td>
<td>11.876</td>
</tr>
<tr>
<td>PIQ</td>
<td>98.560</td>
<td>12.763</td>
</tr>
<tr>
<td>VIQ</td>
<td>95.447</td>
<td>12.701</td>
</tr>
<tr>
<td>Math Achievement Test</td>
<td>84.600</td>
<td>12.956</td>
</tr>
<tr>
<td>Reading Achievement Test</td>
<td>81.393</td>
<td>14.666</td>
</tr>
<tr>
<td>History of Special Education</td>
<td>29.440</td>
<td>28.998</td>
</tr>
</tbody>
</table>

N = 150
The amount of special education services received by the students ranged from 0 to 21.5 hours per week. Across the three grade levels, the average was 5.779 (s.d. = 4.874) hours per week. Means and standard deviations for third, sixth, and ninth grade subjects were 5.293 (s.d. = 4.108), 6.674 (s.d. = 5.187), and 5.221 (s.d. = 5.141), respectively (see Table 3). Means and standard deviations are presented by program prototype, sex, and record of retention in Tables 4, 5, and 6, respectively.

Full scale intelligence test scores for all students ranged from 65 to 133. The mean full scale IQ for the students was within the average range ($M = 96.780; s.d. = 11.786$). Reading achievement standard scores ($M = 100; s.d = 15$) had a mean of 81.393 with a standard deviation of 14.666 and a range of 25 to 121.00. Means and standard deviations for the third, sixth, and ninth grade students were 81.13 (s.d. = 11.226), 81.533 (s.d. = 14.145), and 81.492 (s.d. = 17.404), respectively. Math achievement standard scores had a mean of 84.6 with a standard deviation of 12.956 and a range of 52.00 to 118.00. Means and standard deviations for the third, sixth, and ninth grade students were 84.935 (s.d. = 11.365), 85.711 (s.d. = 12.260), and 83.492 (s.d. = 14.653), respectively. For both measures, the standard deviation increased at each successive grade level studied. The increased dispersion of both reading and math achievement test scores reflects the greater variation of both students and student achievement found within the grade level populations of school students as they progress through school.
Table 3
Means and Standard Deviations by Grade Level

<table>
<thead>
<tr>
<th>Variable</th>
<th>Grade 3</th>
<th>Grade 6</th>
<th>Grade 9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Age</td>
<td>104.696</td>
<td>10.441</td>
<td>142.222</td>
</tr>
<tr>
<td>Team Attendance</td>
<td>5.522</td>
<td>1.975</td>
<td>4.244</td>
</tr>
<tr>
<td>Hours of Special Education</td>
<td>5.293</td>
<td>4.108</td>
<td>6.740</td>
</tr>
<tr>
<td>IEP Goals</td>
<td>3.304</td>
<td>1.908</td>
<td>3.556</td>
</tr>
<tr>
<td>FSIQ</td>
<td>97.565</td>
<td>9.856</td>
<td>97.400</td>
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<td>PIQ</td>
<td>99.717</td>
<td>11.432</td>
<td>97.289</td>
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<tr>
<td>VIQ</td>
<td>95.304</td>
<td>11.473</td>
<td>96.444</td>
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<tr>
<td>Math Achievement</td>
<td>84.935</td>
<td>11.365</td>
<td>85.711</td>
</tr>
<tr>
<td>Reading Achievement</td>
<td>81.130</td>
<td>11.226</td>
<td>81.533</td>
</tr>
<tr>
<td>History of Special Education</td>
<td>16.239</td>
<td>16.584</td>
<td>36.644</td>
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</table>
Table 4

Means and Standard Deviations by Program Prototype

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>502.1 (n=25)</th>
<th></th>
<th>502.2 (n=75)</th>
<th></th>
<th>502.3 (n=50)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Age</td>
<td>142.360</td>
<td>28.459</td>
<td>147.760</td>
<td>34.562</td>
<td>140.980</td>
<td>28.815</td>
</tr>
<tr>
<td>Team Attendance</td>
<td>1.840</td>
<td>1.143</td>
<td>2.347</td>
<td>1.447</td>
<td>4.660</td>
<td>2.876</td>
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<tr>
<td>Hours of Special Education</td>
<td>5.080</td>
<td>2.431</td>
<td>5.413</td>
<td>2.087</td>
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<td>1.882</td>
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<td>IEP Goals</td>
<td>0.542</td>
<td>1.315</td>
<td>3.627</td>
<td>1.707</td>
<td>11.325</td>
<td>3.815</td>
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<td>IEP Objectives</td>
<td>3.880</td>
<td>3.358</td>
<td>8.600</td>
<td>6.251</td>
<td>17.760</td>
<td>10.646</td>
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<tr>
<td>FSIQ</td>
<td>104.460</td>
<td>13.696</td>
<td>95.493</td>
<td>10.873</td>
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<td>10.670</td>
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<tr>
<td>PIQ</td>
<td>104.560</td>
<td>12.816</td>
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<td>11.885</td>
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<tr>
<td>VIQ</td>
<td>103.760</td>
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<td>94.040</td>
<td>11.545</td>
<td>93.400</td>
<td>12.257</td>
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<tr>
<td>Math Achievement</td>
<td>86.920</td>
<td>9.385</td>
<td>85.680</td>
<td>13.774</td>
<td>81.820</td>
<td>12.975</td>
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<tr>
<td>Reading Achievement</td>
<td>83.080</td>
<td>12.701</td>
<td>81.453</td>
<td>16.150</td>
<td>80.460</td>
<td>13.371</td>
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</table>
Table 5

Means and Standard Deviations by Sex

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>Boys n=92</th>
<th></th>
<th>Girls n=58</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Age</td>
<td>147.304</td>
<td>31.958</td>
<td>140.310</td>
<td>31.166</td>
</tr>
<tr>
<td>Team Attendance</td>
<td>4.902</td>
<td>1.928</td>
<td>5.500</td>
<td>2.296</td>
</tr>
<tr>
<td>Hours of Special Education</td>
<td>6.209</td>
<td>5.058</td>
<td>4.839</td>
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<td>IEP Goals</td>
<td>10.772</td>
<td>9.428</td>
<td>11.017</td>
<td>8.900</td>
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<td>IEP Objectives</td>
<td>3.098</td>
<td>2.485</td>
<td>2.931</td>
<td>2.016</td>
</tr>
<tr>
<td>FSIQ</td>
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N = 150
Table 6

Means and Standard Deviations by Record of Retention

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N = 150
The amount of time the students had been receiving special education services ranged from 1 to 156 months \((M = 29.440; \text{s.d.} = 28.998)\). As expected, third grade students had the lowest average history of special education \((M = 16.239; \text{s.d.} = 16.548, \text{range} 1 \text{ to} 69)\) but the sixth grade students \((M = 36.644; \text{s.d.} = 22.169, \text{range} 1 \text{ to} 95)\) had a longer average history of special education than both the third and the ninth grade students \((M = 34.237; \text{s.d.} = 37.043, \text{range} 1 \text{ to} 156)\). This may be attributed to the fact that special education is perceived by many teachers and parents to be the intervention of "last resort" and often a student is not referred for a Team evaluation until the increasing academic demands and changing instructional style of later grades cause many students who appeared to be progressing effectively to fail. Also, students with mild to moderate special needs are frequently identified and served by special education in the earlier grades and then released from special education services when they have achieved certain levels of academic competence only to be referred again in later grades as they again fail to progress through the school curriculum.

**Variable Correlations**

Testing the strength of the relationships between the student-centered variables by calculating Pearson product-moment correlations resulted in only weak to moderate relationships between the variables (see Table 7). Bonferonni-adjusted probabilities, \(p < .05\), indicated several statistically significant correlation coefficients.
Table 7
Correlations of Student-Centered Measures

<table>
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<tr>
<th></th>
<th>AGE</th>
<th>IEP TEAM</th>
<th>HOURS</th>
<th>IEP GOALS</th>
<th>OBJS</th>
<th>FSIQ</th>
<th>PIQ</th>
<th>VIQ</th>
<th>MATH ACHVMT</th>
<th>READING ACHVMT</th>
<th>SP ED HISTORY</th>
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<td>0.500*</td>
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*p < .05.
As would be predicted, given the published intercorrelations of WISC-R full scale IQs with the WISC-R verbal and performance subtests which are reported by Wechsler (1974) to range from .89 to .92 for the performance scale and .90 to .94 for the verbal scale depending on the age examined, the relationship between full scale IQ measures and the performance and verbal subtest scores was strong. The correlation coefficient of the WISC-R full scale scores with the performance and verbal subtests was .835 and .849, respectively. A significant relationship was also found between the verbal and performance subtest, $r = .500$. The correlation between the number of months a student had been receiving special education services and the student's chronological age was also statistically significant, $r = .272$, in spite of the low magnitude of the coefficient.

A moderate, though statistically significant, positive relationship was found between hours per week of special education and the number of IEP goals ($r = .443$) and the number of IEP objectives ($r = .595$). The strength of the relationship between the number of IEP goals and the number of IEP objectives was slightly higher, $r = .629$. The statistical relationship between hours per week of special education and the number of goals and objectives in student IEPs is reflective of the nature of the pedagogical relationship between the two variables, as well as the intent of educational policy. That is, the more special education time a student receives, the more specifically the targeted outcomes of that instruction should be articulated and documented. Additionally, the correlation between IEP goals and objectives should demonstrate a strong relationship since the each goal is implicitly defined by the objectives that are developed to guide students to the attainment of the goal through the intermediate steps established by the appropriate objectives. However, when common factor variance ($r^2$) is examined, only 19.62% of the
variance of IEP goals and 35.40% of the variance of IEP objectives is shared with the amount of time a student spends in special education. Therefore, more than 80% of the variation in the number of IEP goals and 64% of the variation in the number of IEP objectives must be attributed to factors other than the amount of special education a student receives.

Correlations between math achievement and WISC-R full scale (r = .386), WISC-R performance (r = .298), and WISC-R verbal (r = .361) were WISC-R scores were all statistically significant. However, similarly low and borderline correlations between reading achievement and WISC-R measures were not statistically significant for any comparison. Since the group's mean full scale intelligence score (96.78) was close to average, these weak relationships might be the result of ability-achievement discrepancies found in, and used by some researchers (e.g., Algozzine, Forgnone, Mercer, and Trifiletti, 1979; Berk, 1984; Cone and Wilson, 1981; Reynolds, 1985), to define the special needs population that is most frequently referred to as Learning Disabled. The group's lower than average math (84.935) and reading (81.130) achievement scores support the ability-achievement interpretation if not the broader notion of the learning disabilities categorization.

The relationship between reading and math achievement scores (r = .349) is moderately strong but statistically significant (p < .05) for the entire sample. The magnitude of the correlations for the third (r = .445) and sixth (r = .462) grade students stronger but were not statistically significant due to the smaller group size. The correlation was not significant for the ninth grade students (r = .257). The range of correlations found within the three grade levels may be partially related to the reported inter-test correlations of the achievement tests themselves. Markwardt (1989) reports, for example, that the intercorrelations between the reading and math subtests for third and
ninth graders in the standardization sample of the Peabody Individual Achievement Test-Revised were .43 and .61, respectively. However, it is more readily apparent that the difference in the correlations were due to the greater range of standard scores and therefore larger standard deviations, especially for the ninth grade students, for the reading achievement measure found at each grade level. At the ninth grade level the scores ranged from 25 to 121 (M = 81.492; s.d. 17.404) as compared to 38 to 109 (M = 81.130; s.d. 11.226) and 47 to 104 (M = 81.533; s.d. 14.145) for the third and sixth grade students, respectively.

Analysis of grade level data using the Pearson product-moment correlational did not result in any remarkable difference or additional significant correlations (see Tables 8, 9, and 10). In fact, when comparing the significant correlation coefficients by grade, the relationships between the variables appears to be stable across the three grade levels except that the correlations coefficient between IEP goals and hours per week is not significant at the ninth grade level. Additionally, where the relationship between math achievement and all WISC-R measures was significant for the entire sample, the grade level analyses resulted in identifying significant relationships between math achievement and WISC-R Full Scale IQ (r = .450) and the WISC-R performance subtest (r = .434) at the ninth grade level only. This suggests that math achievement, perhaps due to the increasing complexity of the concepts taught or variation in instructional presentation, is more dependent on individual intelligence for ninth grade students than it is in for students in third and sixth grade.
Table 8
Correlations of Student-Centered Measures—Grade 3

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<th>IEP Team</th>
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<th>IEP Goals</th>
<th>OBJS</th>
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*p < .05.
Table 9

Correlations of Student-Centered Measures—Grade 6

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<th>IEP GOALS</th>
<th>OBJS</th>
<th>FSIO</th>
<th>PIQ</th>
<th>VIQ</th>
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<th>READING ACHVMT</th>
<th>SP ED HISTORY</th>
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*p < .05.
Table 10

Correlations of Student-Centered Measures—Grade 9

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<tr>
<td>Objectives</td>
<td>0.308</td>
<td>0.131</td>
<td>0.562*</td>
<td>0.418</td>
<td>1.000</td>
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<tr>
<td>FSQ</td>
<td>-0.038</td>
<td>-0.043</td>
<td>-0.195</td>
<td>-0.061</td>
<td>-0.029</td>
<td>1.000</td>
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<tr>
<td>PIQ</td>
<td>-0.027</td>
<td>-0.065</td>
<td>-0.112</td>
<td>-0.123</td>
<td>0.011</td>
<td>0.838*</td>
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<tr>
<td>VIQ</td>
<td>-0.046</td>
<td>-0.032</td>
<td>-0.170</td>
<td>0.005</td>
<td>-0.034</td>
<td>0.842*</td>
<td>0.443*</td>
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<tr>
<td>Math Achieve.</td>
<td>-0.224</td>
<td>-0.132</td>
<td>-0.298</td>
<td>-0.325</td>
<td>-0.113</td>
<td>0.450*</td>
<td>0.434*</td>
<td>0.336</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Read. Achieve.</td>
<td>-0.143</td>
<td>-0.168</td>
<td>-0.003</td>
<td>-0.046</td>
<td>-0.018</td>
<td>0.242</td>
<td>0.115</td>
<td>0.306</td>
<td>0.257</td>
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<td>Sp. Ed. History</td>
<td>0.135</td>
<td>-0.186</td>
<td>0.099</td>
<td>0.063</td>
<td>0.128</td>
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<td>-0.096</td>
<td>0.030</td>
<td>-0.095</td>
<td>0.066</td>
<td>1.000</td>
</tr>
</tbody>
</table>

*p < .05.
**Between Group Differences**

**Grade**

The results of analyses to examine the between grade differences using SYSTAT software (1990) one-way analysis of variance procedures were significant for several of the measures. The number of IEP goals varied significantly between the grades, $F(2, 147) = 3.647$, $p < .02$ (see Table 11), as did Team meeting attendance, $F(2, 147) = 6.217$, $p < .003$ (see Table 12), and student history of special education services, $F(2, 147) = 7.577$ $p < .001$ (see Table 13). A Tukey follow-up analysis indicated that the statistically significant difference ($p = .05$) in mean number of IEP goals was found between the sixth grade ($M = 3.556$; s.d. = 2.935) and ninth grade students ($M = 2.424$; s.d. = 1.923). The mean difference between the two groups (1.132) indicated that, on average, the sixth grade students had more goals than did the ninth grade students. The number of persons attending Team meetings was significantly different between the sixth grade students ($M = 4.244$; s.d. = 1.495) and both the third ($M = 5.522$; s.d. = 1.975) and the ninth grade ($M = 5.508$; s.d. = 2.374) students. The mean differences show that Team meetings of the sixth grade students were attended by significantly fewer people than the Team meetings of either the third or ninth grade students. Post hoc analysis of the differences between the three grade levels on history of special education services (measured in months) indicated that the students in the third grade ($M = 16.239$; s.d. = 16.584) varied significantly from the students in both the sixth ($M = 36.644$; s.d. = 22.169) and ninth ($M = 34.237$; s.d. = 37.043) grades.
Table 11

ANOVA for IEP Goals by Grade

<table>
<thead>
<tr>
<th></th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Group</td>
<td>37.576</td>
<td>2</td>
<td>18.788</td>
<td>3.647</td>
<td>.028</td>
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<tr>
<td>Within Group</td>
<td>757.257</td>
<td>147</td>
<td>5.151</td>
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<td></td>
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</tbody>
</table>

p < .05.
Table 12
ANOVA for Team Attendance by Grade

<table>
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<th>MS</th>
<th>F</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Group</td>
<td>50.798</td>
<td>2</td>
<td>25.399</td>
<td>6.217</td>
<td>.003</td>
</tr>
<tr>
<td>Within Group</td>
<td>600.535</td>
<td>147</td>
<td>4.085</td>
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<td>p &lt; .01</td>
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</table>
Table 13

ANOVA for History of Special Education by Grade

<table>
<thead>
<tr>
<th></th>
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<th>MS</th>
<th>F</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Group</td>
<td>11709.601</td>
<td>2</td>
<td>5854.801</td>
<td>7.577</td>
<td>0.001</td>
</tr>
<tr>
<td>Within Group</td>
<td>113585.359</td>
<td>147</td>
<td>772.690</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

p < .01.
Differences in special education history is a predictable finding given that grade placement in upper grade levels is related to the length of time a student has been in school and been available for instruction and additional services as necessary. This is the case when comparing the sixth and ninth grade students with the third grade students but, as Tables 5 and 6 indicate, the average length of special education involvement was greater for the sixth grade students than for the ninth grade students which can, in part, be attributed to greater variation in the special education history of the ninth grade students as indicated by the larger standard deviation.

A significant difference between boys and girls was found for history of special education services, $t(148) = 2.012, p < .04$. No other significant differences were found between boys and girls. Boys averaged 33.185 months in special education across the three grade levels while girls averaged 23.5 months. Boys appear to be referred earlier and stay in special education longer. However, the student with the longest history of special education was a girl who had 156 months of special education history as compared with 136 months for the boy with the longest history of special education.

Prototype

Analysis by prototype found significant between group differences in both the number of IEP goals, $F(2, 147) = 25.255 p < .001$ (see Table 14), and IEP objectives $F(2, 147) = 33.577 p < .001$ (see Table 15). The direct relationship of prototype established by the Chapter 766 regulations indicates that this result suggests that students who receive more special education instruction have more documented educational goals and objectives than students who receive less special education instruction.
Retention

Significant differences between those students who were retained and those who were not were found for number of IEP goals, $t(148) = 3.042 p < .003$, number of IEP objectives $t(148) = 2.110 p < .03$, performance IQ, $t(148) = 2.190 p < .03$, verbal IQ, $t(148) = 2.955 p < .004$, math achievement, $t(148) = 2.643 p < .009$, reading achievement, $t(148) = 2.066 p < .04$, and age, $t(148) = 3.125 p < .002$. Students who had repeated at least one grade had more IEP goals and IEP objectives (see Tables 12 and 13). The retained students also had significantly lower WISC-R subtest scores and academic achievement scores. Students who were retained also varied significantly from those who were not retained on the number of hours per week they spend in special education, $t(148) = 2.442 p < .016$. Students who had not been retained averaged 4.962 hours per week of special education services as compared with 6.954 for the group that had repeated a grade.

Type of IEP Meeting

Examination of the type of IEP meeting found significant between group differences for the number of IEP objectives, $F(2, 147) = 3.841 p < .02$ (see Table 16). While the number of IEP goals appears stable across the three types of meetings, the number of objectives rose from approximately 11 per student for initial IEPs to approximately 14 for reevaluation meetings. This suggests that IEP objectives may become additive from year to year as students fail to obtain the criterion required. Conversely, it might indicate that more complex skills and behaviors require more objectives to adequately describe the steps necessary for attainment of a particular goal.
Table 14

ANOVA for IEP Goals by Program Prototype

<table>
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<tr>
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<th>df</th>
<th>MS</th>
<th>F</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Group</td>
<td>203.267</td>
<td>2</td>
<td>101.633</td>
<td>25.255</td>
<td>0.000</td>
</tr>
<tr>
<td>Within Group</td>
<td>591.567</td>
<td>147</td>
<td>4.024</td>
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</tbody>
</table>

p < .01.
Table 15

ANOVA for IEP Objectives by Program Prototype

<table>
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<th>df</th>
<th>MS</th>
<th>F</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Group</td>
<td>3981.573</td>
<td>2</td>
<td>1990.787</td>
<td>33.577</td>
<td>0.000</td>
</tr>
<tr>
<td>Within Group</td>
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<td>147</td>
<td>59.291</td>
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</table>

p < .01.
Table 16
ANOVA for IEP Objectives by Meeting Type

<table>
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<tr>
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<th>df</th>
<th>MS</th>
<th>F</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Group</td>
<td>630.651</td>
<td>2</td>
<td>315.325</td>
<td>3.841</td>
<td>0.000</td>
</tr>
<tr>
<td>Within Group</td>
<td>12066.683</td>
<td>147</td>
<td>82.086</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

p < .05.
Regression Analysis

A regression analysis for the entire sample was conducted using hours per week of special education services as the dependent variable and eight continuous predictor measures: (1) chronological age in months; (2) number of persons in attendance at IEP Team meeting; (3) total number of IEP goals; (4) total number of IEP objectives; (5) full scale intelligence score; (6) math achievement score; (7) reading achievement score; and (8) the number of months each student had been receiving special education services. Stepwise regression, alpha-to-enter and alpha-to-remove set at .150 (predictors are added to the equation if they account for at least 1.5% of the variance in the dependent variable and removed if they contribute less than 1.5%), resulted in four predictors being entered in four steps and four predictors being removed from the equation. The subset of predictors included in the model were the number of IEP objectives (R = .595, R^2 = .354), full scale IQ (R = .621, R^2 = .386), history of special education (R = .634, R^2 = .402), and math achievement (R = .642, R^2 = .412). The coefficient of determination, R^2, for the model including the four predictors was .412 indicating that 41.2% of the variance in the dependent variable, hours per week of special education, was accounted for by the independent variables. The number of IEP objectives accounted for 35.4% of the variance in the dependent variable. Adding the three additional predictors included in the stepwise procedure model accounted for only 5.8% more of the variance. Analysis of variance results, F(4, 145) = 25.440 p = 0.000, indicate that the relationship between the dependent variable and the independent variables did not occur by chance.

Placing the four removed predictors (chronological age, number of persons in attendance at the IEP Team meeting, total number of IEP goals, and reading achievement) back into the regression model resulted in accounting
for only 1.3% \((R = .652, R^2 = .425)\) more of the variance in the dependent variable.

Analysis by grade level, alpha-to-enter and alpha-to-remove set at .150, resulted in three different models each containing only two predictors. For the third grade students, the subset of predictors included the number of IEP objectives \((R = .668, R^2 = .447)\) and history of special education \((R = .708, R^2 = .501)\). Addition of the six removed predictors resulted in accounting for an additional 6.7% \((R = .753, R^2 = .568)\) of the variance. Analysis of variance results, \(F(2,43) = 21.621, p = 0.000\), indicate that the relationship between the dependent variable and the independent variables did not occur by chance.

For students in the sixth grade, the number of IEP objectives \((R = .631, R^2 = .398)\) and full scale IQ \((R = .679, R^2 = .461)\) were the two predictors included in the stepwise model. Addition of the six removed predictors accounted for an additional 3.8% \((R = .706, R^2 = .499)\) of the variance in the dependent variable. The results of the analysis of variance, \(F(2, 42) = 17.937, p = 0.000\), were statistically significant.

The model for students in the ninth grade included the number of IEP objectives \((R = .562, R^2 = .316)\) and math achievement \((R = .610, R^2 = .372)\). Addition of the six removed predictors accounted for an additional 1.7% \((R = .624, R^2 = .389)\) of the variance in the dependent variable. The results of the analysis of variance, \(F(2, 56) = 17.194, p = 0.001\), were statistically significant.

These results support the use of IEP objectives as the best single predictor of the dependent variable, hours per week of special education. However, the usefulness of this variable as a "predictor" of the dependent variable is ambiguous. The nature of the independent variables is such that IEP goals and IEP objectives can be expected to be positive predictors of the independent
variable, hours per week of special education. Greater numbers of goals and objectives developed by an evaluation Team for a special needs student should result in the provision of a greater amount of special education service. IEP goals and objectives are treated as independent variables rather than dependent variables, as might be argued, because placement decisions are based on the IEP after it is developed. It is the information about the student and the elements of each individually designed program (including IEP goals and objectives) that direct placement decisions which in turn translate into hours per week of special education. IEP goals and objectives are linked to student assessment data and should direct special education intervention and services rather than be directed by program placement.

As previously reported, a moderate, though statistically significant, positive correlation was found between the dependent variable, hours per week of special education, and the number of IEP goals (R = .443) and the number of IEP objectives (R = .595). The relationship between the two independent variables, number of IEP goals and the number of IEP objectives, was slightly stronger, R = .629. The statistically beneficial affect of the dependent variable's high correlation with the two independent variables is offset by the magnitude of the intercorrelation between the independent variables. The relative contribution of these two predictors, the number of IEP goals and the number of IEP objectives, to the dependent variable is difficult to assess since the two independent variables influence one another in such a way that their individual affect on the dependent variable is difficult to interpret.

When the two IEP measures are removed from the model only 8.3% of the variance in the dependent variable can be accounted for by the subset of predictors included in the stepwise regression model. The two variables
included in the model, full scale IQ (R = .249, R² = .062) and history of special education (R = .289, R² = .083), leave 92.7% of the variation in the dependent variable accountable to other factors. Using a general regression procedure in which all six variables are included results in only 9.5% (R = .308, R² = .095) of the variance in the dependent variable explained by the predictors. The contribution of IEP goals and IEP objectives, although ambiguous, is obviously significant in accounting for the variation in the number of hours per week of special education received by the students in the study.

**Questionnaire Data**

**Response Rate**

The overall questionnaire return rate was 74%. A total of 185 completed questionnaires were received and analyzed. One questionnaire addressed to a member of the parent group was returned as undeliverable and without a forwarding address. One special education administrator questionnaire was uncompleted when it was returned. A brief note from the administrator indicated that he or she was unable to complete the questionnaire due to the unique nature of the administrator's position.

The return rate for both special education administrators and school psychologists was 92% (46 questionnaires). The response rate for the parents of special needs children, 44% (22 questionnaires), was the lowest of the five groups. Principals and special education teachers had return rates of 64% (32 questionnaires) and 78% (39 questionnaires), respectively.

**Variable Importance—Rankings**

The importance of information used to determine the amount of special education a student with special needs will receive was determined by asking evaluation Team members with different roles to rank ten pieces of
information from "most important" (1) to "least important" (10). The items were:

1. Math ability
2. Reading ability
3. Basic skills scores
4. Chronological age
5. Intelligence
6. Behavior
7. Sex
8. Chapter I participation
9. Previous special education services
10. Cultural background.

Participating evaluation Team members were from five groups with different roles in the special education evaluation process. The five groups were:

1. Special education administrators
2. Parents
3. Special education teachers
4. Principals
5. School psychologists

Rankings, means, and standard deviations for each of the five groups are presented in Table 17. Means and standard deviations were computed from the scores assigned to each item. These calculations serve as a measure of inter-rater reliability for this section of the questionnaire and allow for a comparison of between group responses. The ordinal ranking of the ten pieces of information by the five groups resulted in agreement that reading ability (achievement) is the most important factor in making decisions about
special education services. Math and intelligence were ranked second and third, respectively, in importance by all groups, except for principals who ranked previous special education third and intelligence fourth in importance. Some variation can be found between the groups on those pieces of information that were indicated by the participants to be of less importance but cultural background and student gender were ranked by all five groups as "least important."

**Between Group Differences**

A between group comparison of the mean response for each item was completed using a one-way analysis of variance. Although all five groups ranked reading ability as the "most important" item when making placement decisions, a statistically significant difference, $F(4, 180) = 2.621, p < .036$ (see Table 18), was found. A Tukey analysis ($p < .05$) indicated that the statistically significant difference in mean rankings of the reading item was between the parent group ($M = 2.818; s.d. = 2.039$) and the principals ($M = 1.625; s.d. = 1.476$). A mean difference of 1.193 between the groups indicates that parents viewed reading as somewhat less significant than principals as a group in making decisions.
Table 17

Rankings, Means, and Standard Deviations by Respondent Role

<table>
<thead>
<tr>
<th>SP. ED. ADMINISTRATORS</th>
<th>PARENTS</th>
<th>SP. ED. TEACHERS</th>
<th>PRINCIPALS</th>
<th>PSYCHOLOGISTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rank</td>
<td>M</td>
<td>SD</td>
<td>Rank</td>
<td>M</td>
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<tr>
<td>Reading</td>
<td>1</td>
<td>1.957</td>
<td>1.053</td>
<td>1</td>
</tr>
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<td>Basic Skills</td>
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<td>5.870</td>
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<td>CA</td>
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<td>5.739</td>
<td>2.070</td>
<td>6</td>
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<tr>
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<td>2.086</td>
<td>4</td>
</tr>
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<td>6.826</td>
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<td>8</td>
</tr>
<tr>
<td>Cultural Background</td>
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<td>8.761</td>
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</table>
Table 18

ANOVA for Ranking of Reading Achievement by Respondent's Role

<table>
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<tr>
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<th>F</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Group</td>
<td>21.262</td>
<td>4</td>
<td>5.316</td>
<td>2.621</td>
<td>0.036</td>
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<tr>
<td>Within Group</td>
<td>364.986</td>
<td>180</td>
<td>2.028</td>
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</tr>
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</table>

p < .05.
A significant difference was also found for IQ, $F(4, 180) = 3.566, p < .008$ (see Table 19). The Tukey procedure indicated that differences existed between principals ($M = 4.656; s.d. = 2.119$) and both special education teachers ($M = 3.154; s.d. = 1.871$) and school psychologists ($M = 3.196; s.d. = 1.951$) with absolute mean differences of 1.502 and 1.461, respectively. The direction of the mean difference indicates that the principals view IQ as less important than do special education teachers and school psychologists.

Perceived Variable Importance

Section II asked the respondents to use a seven point Likert-type scale to report the perceived importance of different types of information in making decisions about the amount of time a special needs student spends in special education. Respondents were asked to rate the each item from "unimportant" (1) to "important" (7). The items included the same ten items ranked by the participants in Section I plus the following items:

1. A student's record of retention
2. Mainstreaming opportunities
3. Team dynamics

An examination of the descriptive statistics (Table 20) by group reveals that parent responses on reading and sex account for the between group difference on these variables. The mean response of the parent group is higher and the range greater on these two variables than for the other four groups. For intelligence, it appears that parents and principals view this variable as less important the other three groups. The difference between the groups on their feelings about the importance of cultural diversity appears to be due to the range of opinion among the school principals, who reported it as less important than the other groups, and school psychologists who reported it as more important.
Table 19

ANOVA for Ranking of Intelligence by Respondent's Role

<table>
<thead>
<tr>
<th></th>
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<th>df</th>
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<th>F</th>
<th>Probability</th>
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</thead>
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<tr>
<td>Between Group</td>
<td>61.496</td>
<td>4</td>
<td>15.374</td>
<td>3.566</td>
<td>0.008</td>
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<tr>
<td>Within Group</td>
<td>776.039</td>
<td>180</td>
<td>4.311</td>
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</tbody>
</table>

p < .05.
Table 20

Means and Standard Deviations of Perceived Factor Importance

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>TOTAL GROUP</th>
<th>DIRECTORS</th>
<th>PARENTS</th>
<th>TEACHERS</th>
<th>PRINCIPALS</th>
<th>PSYCHOLOGISTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Math Achieve.</td>
<td>5.876</td>
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<td>5.978</td>
<td>1.105</td>
<td>5.409</td>
<td>1.968</td>
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<tr>
<td>Read Achieve.</td>
<td>6.476</td>
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<td>6.717</td>
<td>0.621</td>
<td>5.636</td>
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<td>Basic Skills Test</td>
<td>3.627</td>
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<td>3.674</td>
<td>1.578</td>
<td>3.545</td>
<td>1.819</td>
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<td>Age</td>
<td>3.773</td>
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<td>4.000</td>
<td>1.726</td>
<td>3.727</td>
<td>1.695</td>
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<tr>
<td>Intelligence</td>
<td>5.222</td>
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<td>5.130</td>
<td>1.343</td>
<td>4.682</td>
<td>1.492</td>
</tr>
<tr>
<td>Behavior</td>
<td>5.151</td>
<td>1.402</td>
<td>5.391</td>
<td>1.390</td>
<td>4.682</td>
<td>1.836</td>
</tr>
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<td>Chapter I</td>
<td>4.308</td>
<td>1.549</td>
<td>4.087</td>
<td>1.488</td>
<td>3.955</td>
<td>1.939</td>
</tr>
<tr>
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<td>1.565</td>
<td>0.910</td>
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Inter-item Correlations

A measure of the relationship between the respondent's perceived importance of the different types of information can be found in the correlations between the items. Significant inter-item correlations (p < .05) for the total respondent group (see Table 21) were found between the following pairs of questionnaire items: math achievement and reading achievement (r = 0.681), math achievement and mainstreaming opportunities (r = 0.262), reading achievement and mainstreaming opportunities (r = 0.291), reading achievement and gender (r = -0.273), chronological age and record of retention (r = 0.287), intelligence and record of retention (r = 0.265), intelligence and behavior (r = 0.363), Chapter 1 services and prior special education (r = 0.330), gender and cultural background (r = 0.357), and mainstreaming opportunities and Team dynamics (r = 0.297). Significant inter-item correlations were also found within the individual respondent groups with the exception of the special education teachers for which none of the inter-item correlations were significant (see Table 22). The significant inter-item correlations for special education directors (see Table 23) were between math and reading achievement (r = .509) and between chronological age and record of retention (r = 0.486). The significant inter-item correlations for parents (see Table 24) were between math and reading achievement (r = 0.976), math achievement and mainstreaming opportunities (r = 0.711), and between reading achievement and mainstreaming opportunities (r = 0.764). For both the school psychologists and principals (see Tables 25 and 26) a significant inter-item correlation was found only between math and reading achievement in which r = 0.649 and 0.587, respectively.
Of these inter-item correlations, only the correlation between gender and cultural background appear to be extraordinary or unanticipated. However, the significance of this finding can be attributed to the fact that item rankings for both items were extremely low. The significant correlation is, therefore, confirmation that Team members perceive both characteristics to be of little importance in determining special education placement.

Analyses of variance found significant between group differences in the importance the evaluation Team members attributed to reading, intelligence, sex, and cultural background. Specifically, for reading $F(4, 180) = 5.770$, $p = 0.000$ (see Table 27), for intelligence $F(4, 180) = 3.398$, $p < .010$ (see Table 28), for student gender $F(4, 180) = 2.791$, $p < .028$ (see Table 29), and for cultural diversity/background $F(4, 180) = 2.660$, $p < .034$ (see Table 30). Tukey post-hoc comparisons ($p < .05$) of mean differences indicated that with regard to the perceived importance of reading ability, the parent respondents ($M = 5.636; s.d. = 1.941$) were significantly different from each of the other respondent groups. The largest absolute mean differences were between the parents and special education administrators ($M = 6.717; s.d. = 0.621$), special education teachers ($M = 6.590; s.d. = 0.595$), and school psychologists ($M = 6.565; s.d. = 0.620$) at 1.081, 0.953, and 0.929, respectively. The mean difference between parents and school principals ($M = 6.438; s.d. = 0.840$) was .0801. In each comparison, the parent group perceived reading ability to be of less importance than did the comparison respondent group. However, it should also be noted that the standard deviation for the parent group was larger and the number of respondents smaller than for each of the comparison groups.
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*p < .05.

Table 24: Inter-item Correlations of Item Ratings for Parents
### Table 25

Inter-item Correlations of Item Ratings for School Psychologists

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*p < .05.
Table 26

Inter-item Correlations of Item Ratings for Principals

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*p < .05.
Table 27

ANOVA for Perceived Importance of Reading Achievement by Respondent's Role

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p < .05.
Table 28

ANOVA for Perceived Importance of Intelligence by Respondent's Role

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p < .05.
Table 29

ANOVA for Perceived Importance of Sex by Respondent's Role

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p < .05.
Table 30

ANOVA for Perceived Importance of Cultural Diversity by Respondent's Role

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$p < .05.$
School psychologists ($M = 5.696; \text{s.d.} = 1.209$) perceived intelligence to be of more importance than did both the parent respondents ($M = 4.682; \text{s.d.} = 1.492$) and principals ($M = 4.781; \text{s.d.} = 1.581$). Mean differences were 1.014 and 0.914, respectively.

Although not reported to be a very important factor ($M = 1.654; \text{s.d.} = 1.093$), parents perceived a student's sex to be significantly more important ($M = 2.318; \text{s.d.} = 1.810$) than did special education teachers ($M = 1.487; \text{s.d.} = 0.823$) and school principals ($M = 1.438; \text{s.d.} = 0.878$). Mean differences were 0.831 and 0.881, respectively.

A statistically significant difference in the perceived importance of cultural diversity in making placement decisions was found between school psychologists ($M = 3.283; \text{s.d.} = 1.393$) and principals ($M = 2.219; \text{s.d.} = 1.237$). As the mean responses indicate, neither group perceived this factor to be of much importance in making placement decisions but the school psychologists as a group did perceive to be of greater importance than did school principals. Since "cultural diversity" is a broad term and may be interpreted in many ways, it is possible that principals interpreted it to mean race or ethnicity and therefore of less importance than the school psychologists who have primary responsibility for the completion of psycho-educational assessments and the evaluation of student educational strengths and weaknesses and may be more likely, therefore, to interpret the term as English proficiency or language dominance which is important test selection and in making decisions about educational services and placement.

Using the respondent's mean responses, reading skills are perceived by the evaluation Team members as the most important piece of information used to determine the number of hours per week a special needs student spends in special education. Math skills and mainstreaming opportunities
were reported to be next and apparently equal in importance. The three least important factors were student performance on the Massachusetts Basic Skills Test, cultural background, and gender. These results are consistent with those reported for Section I of the questionnaire. It should be noted that when given the opportunity to respond to the added variable of available in-school mainstreaming opportunities, the respondents indicated that this information is among the most important in making placement decisions.

A comparison of the results from Section I and Section II of the questionnaire indicate that evaluation Team members are consistent in their perception, whether forced to rank the data or given the opportunity to rate each variable independently. In both situations, respondents indicated that reading skills are the most important piece of information. The importance of reading skills and thus the ability to complete academic work independently, appears critical for participation in mainstream classes.

Process Agreement

Part 3 of the questionnaire asked respondents to answer five questions about (1) the Team evaluation process and (2) the way information is used by Team members to make decisions about the amount of special education instructional time a special needs student will receive. The questions used a "yes" or "no" format. A two-tailed, alpha = 0.05, Chi square test of independence was used to determine whether or not group membership played a role in answering each of the five questions. The hypotheses tested were:

\[ H_0 = \text{The pattern of response is independent of Team membership role.} \]
\[ H_1 = \text{The pattern of response is not independent of Team membership role.} \]
Question Responses

Question 1 asked, "Are decisions about the amount of time a special needs student spends in special education based primarily on the information available to the Evaluation Team?" Over 90% of the respondents answered "yes" and 9.73% answered "no."

Question 2 asked, "Are decisions about the amount of time a special needs student spends in special education based primarily on the interpersonal dynamics of the Evaluation Team?" over 80% answered "no" and 16.76% answered, "yes."

To question 3, which asked, "Do all members of the Evaluation Team use the information available to them in the same manner?" Over 77% responded "no" and 22.16% responded "yes."

Question 4 asked, "Does the information about individual students vary in usefulness from student to student?" Over 84% responded that the usefulness of information does vary from student to student and 15.14% responded that it does not vary in usefulness from student to student.

Finally, in question 5, the respondents were asked, "Does the amount of time a student spends in special education depend on the composition of the Evaluation Team?" Over 62% of the respondents indicated that the amount of special education service a student receives does not depend on the makeup of the Team and 37.84% indicated that they believe that composition of the Team is a factor in determining the amount of special education services.

These responses indicate that Team members apparently believe that decisions about special education placement are based primarily on student-centered data rather than Team dynamics and composition. There appears to be some sense, however, that not all Team members use this information in
the same manner and that the information available to them varies from
student to student. The contrast between the reported belief that decisions are
based primarily on student-centered data and the belief that this information
varies in usefulness from student to student is interesting. When considered
together with the belief that not all Team members use information in the
same manner, the complexity of achieving a significant degree of consistency
in placement decisions between students begins to emerge. The different
roles of Team members and their various educational backgrounds, training,
and responsibilities can, in part, explain some of the differences in the use of
information and are, in fact, a positive feature of the multidisciplinary team
model. The variation in usefulness of the information from student to
student is a significant concern.

Special education assessment procedures and policies should ensure that
the usefulness of information does not vary between students. Whether
respondents were addressing particular or general concerns about available
information is not known. While standardized test batteries are available
and recommended in some instances, even their use will not guarantee that
all Teams have equally useful information to make appropriate decisions. It
is the nature of the broad range of special needs Teams encounter and the
unique characteristics of individual children that make assessment
information appear inadequate at times. The thoughtful articulation of
referral and assessment questions that should address this issue earlier in the
evaluation process.

**Group Differences**

Chi square analysis of the responses found between group differences for
question 1 and question 5. For these two questions, "Are decisions about the
amount of time a special needs student spends in special education based
primarily on the information available to the Evaluation Team?" and "Does the amount of time a student spends in special education depend on the composition of the Evaluation Team?" the obtained value of Chi square exceeded the critical value of Chi square (9.488, df=4) at the .05 level of significance. The obtained Chi square values for question 1 and question 5 were 11.768 and 11.237, respectively. The null hypothesis that the pattern of response was independent of Team membership role was rejected and the alternate hypothesis that the pattern of response was not independent of Team membership role was accepted. Chi square values for questions 2, 3, and 4 were 7.380, 3.316, and 9.424, respectively. For these questions the null hypothesis was accepted.

For question 1, the between group difference can be attributed to the lower rate of "yes" responses for special education teachers. Only 77% of the special education teacher responded "yes" to the questions. The "yes" response for special education administrators, parents, principals, and school psychologists was 96%, 96%, 94%, and 96%, respectively. Special education teachers appear to have somewhat less conviction that special education decisions are based primarily on available information. Interestingly, however, they do not vary from other respondents in their reported views on the role of team membership and team dynamics as assessed by Questions 5 and 2.

For question 5, the between group difference can be attributed to the lower rate of "no" responses from the parent group. Only 36% of the parent respondents answered "no" to the questions. The "no" response for special education administrators, special education teachers, principals, and school psychologists was 63%, 61%, 81%, and 61%, respectively. Participating parents apparently believe that Team composition does affect special education
placement. Since the parents responding to the questionnaire have, in all likelihood, only participated in Team meetings for their own children (unlike the other respondents who have participated in the Team meetings of many children as part of their professional responsibilities), they may be correct from their vantage point. It is interesting, however, that their aggregated responses were not significantly different from the other respondent groups on question 2 since it also taps the quality of Team interactions.

**Summary**

This chapter presented the results of the two data set that were collected and analyzed. Numerous statistically significant results from each data set were presented and briefly discussed. Chapter V will summarize this project and the results that were obtained. It will also expand and elaborate on possible explanations and interpretations of the results. Conclusions regarding the significance of the results and the project as a whole will be offered and discussed. Finally, recommendations for the application of these results to the practice of making placement decisions about special needs students and suggestions for further investigations will be offered.
CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter will do four things. First, it will summarize the significant results that were obtained from the analysis of the two data sets. Second, it will answer the research questions which guided the study. Third, it will propose and explain the conclusions that are suggested by the data. These conclusions will expand and elaborate the interpretations and explanations of the results that were presented in the previous chapter. The significance of the results and the project as a whole will be offered and discussed. Finally, recommendations for the application of these results to the practice of making placement decisions about special needs students and suggestions for further investigations will be offered.

Summary of Findings

Two sets of data were collected and analyzed. Analysis of both sets of data resulted in numerous statistically significant outcomes. The following is a summary of the these results for the set of student data. A summary of the questionnaire data follows the presentation of the student data.

Student Data

The amount of special education services received by the students ranged from 0 to 21.5 hours per week. Across the three grade levels, the average was 5.779 hours per week with a standard deviation of 4.874. Means and standard deviations for third, sixth, and ninth grade subjects were 5.293 (s.d. = 4.108), 6.674 (s.d. = 5.187), and 5.221 (s.d. = 5.141), respectively.

Full scale intelligence test scores for all students ranged from 65 to 133. The mean full scale IQ for the students was within the average range (M = 96.780, s.d. = 11.786). Full scale means for the third, sixth, and ninth
grade students were 97.565 (s.d. = 9.856), 97.4 (s.d. = 13.722), and 95.695 (s.d. = 11.690), respectively. Means and standard deviations for the measure of reading achievement for the third, sixth, and ninth grade students were 81.13 (s.d. = 11.226), 81.533 (s.d. = 14.145), and 81.492 (s.d. = 17.404), respectively.

Math achievement had a mean standard score of 84.6 with a standard deviation of 12.956 and a range of 52.00 to 118.00. Means and standard deviations for the third, sixth, and ninth grade students were 84.935 (s.d. = 11.365), 85.711 (s.d. = 12.260), and 83.492 (s.d. = 14.653), respectively.

A moderate, though statistically significant, positive relationship was found between hours per week of special education and the number of IEP goals (r = .443) and the number of IEP objectives (r = .595). The strength of the relationship between the number of IEP goals and the number of IEP objectives was slightly higher, r = .629. The statistical relationship between hours per week of special education and the number of goals and objectives in student IEPs is reflective of the nature of the pedagogical relationship between the two variables, as well as the intent of educational policy. That is, the more special education time a student receives, the more specifically the targeted outcomes of that instruction should be articulated and documented. Additionally, the correlation between IEP goals and objectives should demonstrate a strong relationship since the each goal is implicitly defined by the objectives that are developed to guide students to the attainment of the goal through the intermediate steps established by the appropriate objectives.

However, when common factor variance (r^2) was examined, only 19.62% of the variance of IEP goals and 35.40% of the variance of IEP objectives was shared with the amount of time a student spends in special education. Therefore, more than 80% of the variation in the number of IEP goals and
64% of the variation in the number of IEP objectives must be attributed to factors other than the amount of special education a student receives.

Although of low magnitude, correlations between math achievement and WISC-R FSIQ ($r = .386$), WISC-R PIQ ($r = .298$), and WISC-R VIQ ($r = .361$) scores were all statistically significant. Similarly low and borderline correlations between reading achievement and WISC-R measures were not statistically significant for any comparison.

Analysis of grade level data using the Pearson product-moment correlation did not result in any remarkable difference or additional significant correlations. The relationship between math achievement and WISC-R FSIQ ($r = .450$) and the WISC-R PIQ ($r = .434$) was significant at the ninth grade level only.

The results of analysis to examine the between group differences using one-way analysis of variance procedures were significant for several measures. The number of IEP goals, number of people attending Team meetings, and student history of special education services all varied significantly between the grades. A significant difference between boys and girls was found only for history of special education services.

Between group analysis by program prototype found significant between group differences in both the number of IEP goals and IEP objectives.

Several significant differences between those students who were retained and those who were not were found. Students who had repeated at least one grade had more IEP goals and IEP objectives than students who had not been retained. The retained students had significantly lower WISC-R subtest scores (performance IQ and verbal IQ) and academic achievement scores (math achievement and reading achievement). Students who were retained also varied significantly from those who were not retained in the number of
hours per week they spend in special education. Students who had not been retained averaged 4.962 hours per week of special education services as compared with 6.954 for the group that had repeated at least one grade.

Examination of the type of IEP meeting found significant between group differences for the number of IEP objectives. While the number of IEP goals appeared stable across the three types of meetings, the number of objectives rose from approximately 11 per student for initial IEPs ($M = 10.606, s.d. = 8.448$) to approximately 14 for re-evaluation meetings ($M = 14.486, s.d. = 10.866$). The significant pairwise mean difference was between reevaluation meetings and annual review meetings ($M = 9.427, s.d. = 8.439$). The mean number of objectives included in IEPs written during three-year reevaluation meetings showed an increase of more than 5 over the number of objectives included in IEPs developed from annual reviews.

Regression analysis for the entire sample using hours per week of special education services as the dependent variable and eight continuous measures (chronological age in months, number of persons in attendance at IEP Team meeting, total number of IEP goals, total number of IEP objectives, full scale intelligence score, math achievement score, reading achievement score, and the number of months each student had been receiving special education services) resulted in four predictors being included in the model and four predictors being removed. The subset of predictors included in the model were the number of IEP objectives ($R = .595, R^2 = .354$), full scale IQ ($R = .621, R^2 = .386$), history of special education ($R = .634, R^2 = .402$), and math achievement ($R = .642, R^2 = .412$). The value of the co-efficient of determination, $R^2$, for the model including the four predictors was .412 indicating that 41.2% of the variance in the dependent variable, hours per week of special education, was accounted for by the independent variables. The number of
IEP objectives accounted for 35.4% of the variance in the dependent variable. Adding the three additional predictors included in the stepwise procedure model accounted for only 5.8% more of the variance. Analysis of variance results, $F(4, 145) = 25.440$, $p = 0.000$, indicate that the relationship between the dependent variable and the independent variables did not occur by chance.

These results support the use of IEP objectives as the best single predictor of the dependent variable, hours per week of special education. However, the usefulness of this variable as a "predictor" of the dependent variable is ambiguous. The nature of the independent variables is such that IEP goals and IEP objectives can be expected to be positive predictors of the independent variable, hours per week of special education. Greater numbers of goals and objectives developed by an evaluation Team for a special needs student should result in the provision of a greater amount of special education service. As previously reported, a moderate, though statistically significant, positive correlation was found between the dependent variable, hours per week of special education, and the number of IEP goals ($r = .443$) and the number of IEP objectives ($r = .595$). The relationship between the two independent variables, number of IEP goals and the number of IEP objectives, was slightly stronger, $r = .629$. The statistically beneficial affect of the dependent variable's high correlation with the two independent variables is offset by the magnitude of the intercorrelation between the independent variables. The relative contribution of these two predictors, the number of IEP goals and the number of IEP objectives, to the dependent variable is difficult to assess since the two independent variables influence one another in such a way that their individual affect on the dependent variable is difficult to interpret.
When the two IEP measures are removed from the model only 8.3% of the variance in the dependent variable can be accounted for by the subset of predictors included in the stepwise regression model. The two variables included in the model, full scale IQ ($R = .249$, $R^2 = .062$) and history of special education ($R = .289$, $R^2 = .083$), leave 92.7% of the variation in the dependent variable accountable to other factors. Using a general regression procedure in which all six variables are included results in only 9.5% ($R = .308$, $R^2 = .095$) of the variance in the dependent variable explained by the predictors. The contribution of IEP goals and IEP objectives, although ambiguous, is obviously significant in accounting for the variation in the number of hours per week of special education received by the students in the study.

Questionnaire Data

The ordinal ranking of the ten pieces of information by the five groups resulted in agreement that reading ability (achievement) is the most important factor in making decisions about special education services. Math and intelligence were ranked second and third, respectively, in importance by all groups, except for principals who ranked previous special education third and intelligence fourth in importance. Some variation can be found between the groups on those pieces of information that were indicated by the participants to be of less importance but cultural background and student gender were ranked by all five groups as "least important."

A between group comparison found that although all five groups ranked reading ability as the "most important" item. Statistically significant difference in mean rankings of the reading item was found between the parent group ($M = 2.818$, s.d. = 2.039) and the principals ($M = 1.625$, s.d. = 1.476). There was a mean difference of 1.193 between the groups indicating that,
according to their responses, the parents view the reading item as somewhat less significant in making decisions than do the principals as a group.

A significant difference was also found for the IQ item, between principals ($M = 4.656, s.d. = 2.119$) and both special education teachers ($M = 3.154, s.d. = 1.871$) and school psychologists ($M = 3.196, s.d. = 1.951$) with absolute mean differences of 1.502 and 1.461, respectively. The direction of the mean difference indicates that the principals view IQ as less important than do special education teachers and school psychologists.

Between group differences were found in the importance the evaluation Team members attributed to reading, intelligence, sex, and cultural background. The perceived importance of reading ability, the parent respondents ($M = 5.636, s.d. = 1.941$) was significantly different from each of the other respondent groups. The largest identified differences were between the parents and special education administrators ($M = 6.717, s.d. = 0.621$), special education teachers ($M = 6.590, s.d. = 0.595$), and school psychologists ($M = 6.565, s.d. = 0.620$) at 1.081, 0.953, and 0.929, respectively. The mean difference between parents and school principals ($M = 6.438, s.d. = 0.840$) was .0801. In each comparison, the parent group perceived reading ability to be of less importance than did the comparison respondent group. However, it should also be noted that the standard deviation for the parent group was larger and the number of respondents smaller than for each of the other comparison groups.

School psychologists ($M = 5.696, s.d. = 1.209$) perceived the intelligence variable to be of more importance than did both the parent respondents ($M = 4.682, s.d. = 1.492$) and principals ($M = 4.781, s.d. = 1.581$).

A student's sex was perceived to be significantly more important by parents ($M = 2.318, s.d. = 1.810$) than by special education teachers ($M = 1.487$,
s.d. = 0.823) and s.d. (M = 1.438, standard deviation = 0.878). A statistically significant difference in the perceived importance of cultural diversity in making placement decisions was found between school psychologists (M = 3.283, s.d. = 1.393) and principals (M = 2.219, s.d. = 1.237). However, as the mean responses indicate, the groups did not perceive any of these factors to be of much importance in making placement decisions.

An examination of the descriptive statistics (Table 17) by group reveals that parent responses on reading and sex account for the between group difference on these variables. The mean response of the parent group is higher and the range greater on these two variables than for the other four groups. For intelligence, it appears that parents and principals view this variable as less important the other three groups. The difference between the groups on their feelings about the importance of cultural diversity appears to be due to the range of opinion among the school principals, who reported it as less important than the other groups, and school psychologists who reported it as more important.

In Section II of the questionnaire, analysis of the respondent's mean responses indicated that, reading skills are perceived by the evaluation Team members as the most important piece of information used to determine the number of hours per week a special needs student spends in special education. Math skills and mainstreaming opportunities were reported to be next most important and apparently equal in importance. The three least important factors were student performance on the Massachusetts Basic Skills Test, cultural background, and gender. These results are consistent with those reported for Section I of the questionnaire. It should be noted that when given the opportunity to respond to the added variable of available in-school
mainstreaming opportunities, the respondents indicated that this
information is among the most important in making placement decisions.

Team members appeared to be consistent in their perceptions, whether
forced to rank the data or given the opportunity to rate each variable
independently. In both situations, respondents indicated that reading skills
are the most important piece of information. The importance of reading
skills and thus the ability to complete academic work independently, appears
critical for participation in mainstream classes.

In the final section of the questionnaire, respondents indicated that their
responses to two of the questions about the Team process and the way in
which information is used varied with their role on the evaluation Team.
Question 1 asked, "Are decisions about the amount of time a special needs
student spends in special education based primarily on the information
available to the Evaluation Team?" in which 90.27% of the respondents
answered "yes" and 9.73% answered "no." The respondents did not agree that
decisions are based primarily on the information available to the evaluation
Team.

Chi square results indicated that the role of the Team member affected
the Team member's response to this question and therefore their perception
about the information used to make decisions.

When the respondents were asked, "Does the amount of time a student
spends in special education depend on the composition of the evaluation
Team?" Over 62% of the respondents indicated that the amount of special
education service a student receives does depend on the makeup of the Team
and 37.84% indicated that they believe that composition of the Team is a
factor in determining the amount of special education services. A majority of
responding Team members indicated that a Team's composition affects the
amount of time a student spends in special education may depend on role on the Team. Chi square results indicated that responses to this question were affected by the respondent's role on the evaluation Team.

**Research Questions**

The purpose of this study was twofold. First, it attempted to collect and analyze data to determine which factors, or combination of factors, are the best predictors of the amount of special education (measured in hours per week) third, sixth, and ninth grade students receive. Second, it collected data from evaluation Team members about how they perceive the use, usefulness, and consistency of the information they use to make placement decisions.

**Question One**

The first research question asked, "What variables most reliably predict the amount of special education intervention a student receives?"

Examination of the regression analysis results indicates that IEP objectives, FIQ, history of special education, and math achievement are the best predictors of the number of hours per week of special education for the students sampled. At each of the three grade levels the number of IEP objectives is the best single predictor. History of special education, FSIQ, and math achievement are the only additional predictors included in the model by the stepwise procedure for the third, sixth, and ninth grade samples, respectively.

The finding that the IEP objectives is the best predictor of special education hours is not unanticipated. These objectives are the core of the special education intervention each student receives and the relationship between the amount of services a student receives and the skills presented for attainment should be significant. The greater the number of discrete skills
and behaviors a student is expected to learn, the greater the amount of instructional time may be expected and required. Of interest, however, is that the variables included in the grade level models are limited to only one additional variable, and a different variable at each level. The lack of agreement between the grades raises questions of consistency about the assessment information, Team process, and students.

The third grade regression model included IEP objectives and history of special education. The length of time a student had received special education services throughout his school career would seem to be a more significant factor for older rather than for younger students. However, it might also be argued that, particularly for the third grade, the history of special education is perceived by Team members to be a significant indicator of the need for more intensive ongoing intervention given that the student's school history is shorter and the importance of early intervention more immediate. In either case, and the latter explanation appears more plausible, the usefulness and reliability of these predictors is marginal given that neither represents a measure that is truly intrinsic to the student and therefore helpful in addressing the issue of which student characteristics can be used to predict special education intervention.

Full scale IQ and math achievement were added to the sixth and ninth grade regression models, respectively. This combination of factors is more compatible with the notion of student characteristics and appear to offer a better prediction model. However, the combination of IEP objectives and FSIQ accounted for only 46% of the variation in hours per week while the combination of IEP objectives and math achievement accounted for only 37.2% whereas the combination of IEP objectives and history of special
education accounted for 50.1% of the variation among the third grade students.

From these results, there does not appear to be a set of variables that will reliably predict the amount of special education a student should receive. Student ability and achievement, as well as educational history, are clearly important factors in determining current and future educational intervention. These factors are not stable across the grade levels examined and this in itself makes their use problematic since it indicates that placement decisions do not rely on the same information or student profile. Of course, individual students vary and often there are compelling reasons for weighing information differently from one student to another and deviating from the decision-making model used. The model first, however, must present the data so that is represents, describes, and directs the evaluation Team to consistent, valid, and defensible decisions. What appears to be operating here is the complexity of procedural factors and regulatory requirements that direct the Team evaluation process rather than a pedagogical focus. Regression results that modeled special education intervention on intrinsic student characteristics across the grade levels, perhaps suggesting limited cognitive ability, failure to make effective educational progress, or an ability-achievement discrepancy would have allowed this question to be answered more succinctly. The present results do not suggest that there are variables that can reliably predict special education intervention as presently directed by the mandated team evaluation process.

**Question Two**

The second research question asked, "Do age and gender affect decisions made about special education placement?"
Age was not found to be a significant factor in placement decisions. Chronological age was ranked sixth or seventh in importance on questionnaire responses and no significant statistical results were found. Between grade differences were found for number of IEP goals, Team meeting attendance, and student history of special education services. Because age and grade placement are related to one another as a student progresses through school, it can be loosely assumed that there is a connection between a student's chronological age and the number of IEP goals, Team meeting attendance, and student history of special education services.

These three factors, despite their statistical difference between grade levels, do little to explain the role of age, if any, in special education placement decisions. The significant difference in the number of IEP goals between the sixth and ninth grade students could be due to improvements in student skills (i.e., attainment of IEP goals) or a function of the divergent mission of elementary and secondary special education intervention. Elementary special education is more concerned with skill instruction and remediation (requiring goals in each area of skill deficit) where secondary special education, in general, operates with more of a tutorial focus and attempts to help students pass their mainstream classes (requiring one goal articulating that the student will complete assignments and pass his courses). The difference between the Team meeting attendance (i.e., the number of persons in attendance at the Team meeting) is possibly best explained as coincidence or an artifact of this particular data unless one wishes to speculate that more people attend Team meetings for third grade students because the notion of intensive early intervention is still operating and for ninth graders because the structure of departmentalized junior and senior high schools seems to involve more adults in the student's education. Once a student has
been referred for special education, the student's history of special education generally increases in relation movement through traditional school grades.

While gender was ranked tenth—the least important factor in placement decisions—by all five respondent groups, parents, when asked to rate its importance independently from other placement factors, reported a student's sex to be of greater importance than did special education teachers and school principals. Boys in the study were found to vary significantly from girls in their history of special education. The boys had a longer mean history of special education (33.185 months) than did girls (23.5 months). As a group, the boys appear to be referred earlier and remain in special education longer than girls.

Considering the lack of importance attributed to sex by the evaluation Team members surveyed, it must be assumed that gender is not an active factor in Team decisions. It may, however, be a factor in the decision to initiate a referral to special education. If boys are, in fact, referred earlier as the data suggest, the Team must consider whether or not the reason(s) for the referral and the available assessment data support the need for special education (i.e., presence of a disability and failure to make effective educational progress) independent of the student's sex. This independence is not the question of greatest concern, however.

The Team's responsibility is to address the referral questions that initiated and directed the referral process. Given that IEP objectives, FSIQ history of special education, and math achievement were the best predictors of the number of hours per week of special education for the students sampled, it appears that this combination of information is the most useful to Teams in responding to a referral or in the ongoing process of providing special education services. Still, Team member familiarity with individual
students would suggest that the student's gender may interact with other information or, in some cases, passively influence Team decisions.

**Question Three**

The third research question asked, "What factors are perceived to be the most important by Team members in making placement decisions?"

When asked to rank the importance of ten different types of information used by the evaluation Team in determining the number of hours per week a special needs student will receive, all five respondent groups ranked reading achievement as the most important factor in making the decision. Math achievement and intelligence were solidly ranked as the second and third most important factors. Some between group differences were found in the rankings but these differences were simply the same two factors in exchanged position. When Team members were asked to rate the importance of the factors independently of the other factors, group differences became more pronounced.

As a group, the respondents perceived reading and math achievement, mainstreaming opportunities, intelligence, and a student's behavior to be of most importance in making placement decisions. Parents as a group perceived reading to be of less importance than did each of the other respondent groups. The parent group also differed from the school psychologists on the importance attributed to intelligence. Considering their different interests in the student being evaluated and the training and assessment responsibilities of school psychologists in the evaluation process, it is not surprising that school psychologists would rate intelligence as more important than the parents.

When mainstreaming opportunities was added to the list of factors that affect placement decisions, Team members' responses regarding the
importance or reading remained stable but the importance of mainstreaming was reported to be high and influenced other responses.

**Question Four**

The fourth research question asked, "Do the factors that are most important in predicting special education placement differ from the importance attributed to them by members of the evaluation Team?"

Given the present results, the answer to this question is inconclusive. Regression analysis of the student data found no reliable set of predictors across the grade levels. The number of IEP objectives, FSIQ history of special education, and math achievement were the variables included in the equation for the students sampled. When grade level equations were produced, number of IEP objectives was the only variable common to each equation. History of special education, FSIQ, and math achievement were added to the equation for the third, sixth, and ninth grade samples, respectively. Each equation could be used at the individual grade level but the amount of variation in hours per week of special education accounted for by each pair of predictors does not suggest that the procedure would facilitate the decision-making process.

Team members, as a whole, reported reading achievement, intelligence (FSIQ), math achievement, and mainstreaming opportunities to be the most important factors in placement decisions. Both data sets support the importance of math achievement and intelligence. Reading ability, though strongly supported by Team members as the most important factor in special education placement decisions was not found to be a significant factor in predicting the hours per week of special education. Interestingly, reading achievement scores were found to be significantly correlated with math
achievement scores, as were the ratings given the two factors on the questionnaire by the parents, special education administrators, and principals.

Though the statistical relationships between the variables of the two data sets are different, there are threads of similarity on which refinements in the decision-making process might be built. Reading achievement scores were significantly correlated with math achievement scores and the ratings given the two factors on the questionnaire by the parents, special education administrators, and principals were also significantly correlated with one another. The importance of intelligence, math achievement, and special education history is supported by the regression results and by the perceived importance of Team members. The addition of reading achievement and student behavior, previously not addressed due to the absence of student data, produce a cluster of five student-specific factors that could help answer the question of how much special education time a student requires when weighed in light of the number of IEP objectives and the specific mainstreaming opportunities available.

Question Five

The fifth research question asked, "How much agreement exists both between and among evaluation Team members about the importance of the factors used to make placement decisions?"

Team members ranked reading achievement, math achievement, and intelligence as the three most important factors used to make placement decisions. As a group, the respondents perceived reading and math achievement, mainstreaming opportunities, intelligence, and a student's behavior to be of most importance in making placement decisions.

Some statistically significant between group differences were found and have been previously discussed. When considered as a whole, questionnaire
responses indicate that general agreement exists among and between Team members in determining which information is most important in making placement decisions. However, this question can not be answered without first remembering that Team member responses to the questionnaire indicated that they do not believe that Team decisions are based primarily on the information available to the evaluation Team and that the amount of special education service a student receives depends, at least in part, on the makeup of the Team.

A person's Team membership role apparently does not influence the member's perception of how some aspects of the decision-making process proceed independent of the student assessment data.

**Question Six**

The sixth research question asked, "Do the factors that affect special education placement, as measured by either the prediction equations or the Evaluation Team member's perceptions—or both, suggest a model or process for more reliably and efficiently placing students in special education programs?"

The Team evaluation process begins with a referral to special education which is followed by the collection of assessment data, both formal and informal, designed to guide members of the evaluation Team to the answer of one very specific question: Does the student have a special need? If the answer is, "no," then the Team's task is completed. It may, of course, offer remedial suggestions to those involved with the student's education and parents may wish to pursue their legal rights to disagree with the Team's answer but with regard to its regulatory responsibilities, the Team has fulfilled its obligation. If, on the other hand, the Team agrees that the student has a special need and requires special education, it must develop an IEP that
specifies goals and objectives (outcomes) and placement (i.e., amount of time in special education ranging from modifications to a mainstream classroom to a residential school placement). In either case, each Team must move through a series of procedures to analyze the assessment data and reach its conclusion.

The data collected and analyzed in this study point to some degree of agreement between the characteristics of the student as represented by test scores, educational history, and Team involvement and the factors Team members reportedly perceive to be important. The operative words in this question, however, are "reliably" and efficiently."

Although special education regulations can be read as if educational resources, opportunities, and teacher expertise are evenly distributed between schools, the fact is that significant disparity exists which may contribute to or influence the conclusions and decisions Teams reach even when members are in agreement about how information should be and is used. Reliability and efficiency in student placement can only be evaluated within a school or district given that so many other factors influence between school comparisons. Within this context, however, Teams should be encouraged to weigh the information available to them on individual students and compare it with the educational and behavioral expectations developed for other students with similar learning profiles. IEP goals and objectives, as well as time in special education, should be comparable when students themselves are similar.

One method for objectively comparing students that should not be too quickly overlooked is the measurement of ability (aptitude)-achievement discrepancy. While there is some danger in reducing special needs children to the outcome of a statistical formula, using the results of such procedures as
one piece of information among many could add to the efficiency of Team
decisions. Most children referred for a special education evaluation are given
standardized intelligence and achievement tests as part of the assessment
process. Translating the results of these tests into a uniform measure of
"effective progress" such as a psychometrically defensible ability-achievement
discrepancy (in addition to more traditional analyses and interpretations)
would provide Team members with some corroboration of their personal
feelings about a student's ability to succeed in school, not to mention
distilling the often complex task of establishing links between the outcomes
of intelligence and achievement tests.

Finally, just as measures of ability-achievement discrepancy cannot be
used to limit student access to educational programs or as the sole criterion
for special education placement, a student's record of grade retention cannot
be used to too quickly judge or project a student's educational success. The
significant differences between students who had and students who had not
been retained clearly point to a very powerful piece of information. Even
setting aside the differences in IEP goals and objectives between the two
groups as possible artifacts of the Team evaluation process, the significant
differences found in their performance on the WISC-R PIQ and VIQ subtests
and on both the reading and mathematics achievement tests are noteworthy.
Team decisions must consider a student's record of retention as an important
factor in the student's educational history. Whether the student failed
because the educational system did not provide the necessary and appropriate
educational services or because someone believed that the student simply did
not put forth adequate effort to deserve promotion, Team members must be
vigilant and careful to determine what relationship exists between the non-
promotion and the student's special need.
Question Seven

The final research question asked, "Do the factors that affect special education placement, as measured by either the prediction equations or the Evaluation Team members' perceptions—or both, suggest differences in the role student-centered and environmentally specific factors have in placing students in special education programs?"

To answer this question, it is first necessary to separate the variables examined in this study. First, student-centered variables are those factors that can be measured with some degree of objectivity and standardization, are not influenced by the educational setting or people involved, and describe the student and the student's learning history. These include: math achievement, reading achievement, performance on the Massachusetts Basic Skills Test, chronological age, intelligence, behavior, sex, record of grade retention, and history of special education. Environmental factors are those that are beyond the influence of the student, are affected by the educational setting, people involved, and the services that are or are not available. These factors include, availability of Chapter 1 or other remedial educational services that do not require that a student be identified as disabled in order to be eligible for services, mainstreaming opportunities, Team dynamics, and cultural background.

Analysis of the student data found no reliable set of predictors across the grade levels. However, the number of IEP objectives, FSIQ, history of special education, and math achievement were found to be the variables that best predicted the amount of special education a student received. Team members, as a whole, reported reading achievement, intelligence (FSIQ), math achievement, and mainstreaming opportunities to be the most important factors in placement decisions. Excluding mainstreaming
opportunities, the remaining factors are all student-centered. It might be concluded that student-centered measures play a more important role in determining special education services than do environmental factors. However, the Team member's questionnaire responses indicated that while most members believe that Team decisions are based primarily on the information available to them, special education teachers reported that decisions may be influenced by factors other than student-centered information. Also, only 60% of the questionnaire responses indicated that the amount of special education service a student receives is independent of the Team's composition. The majority of parents, in fact, reported that they believe that Team composition is a factor in Team placement decisions. Given these findings, the importance of student-centered and environmentally specific factors can not be precisely defined and will likely vary from Team to Team and school to school.

The role of the environmental factors cannot be overlooked or minimized. Mainstreaming opportunities were perceived to be one of the three most important factors in making decisions about the amount of special education service a student will receive. In schools where resources are available, teachers appropriately trained, and an inclusionary curriculum in place, students with special needs are likely to spend more time in their regular classrooms and less in separate special education settings. Team members carry this information with them and make placement recommendations that reflect a student's needs as in light of what can be done within the context of a particular teacher's classroom or school. Frequently, Team members are certain to wish for more mainstreaming opportunities and resources in order to prevent isolating special needs students from their peers. The reality is, however, that some schools and
teachers are better prepared for mainstreaming than others. Although current policy and practice attempt to place students in the least restrictive environment, often the least restrictive environment is determined by availability rather than by a match between the student's needed programming and an integrated classroom setting that has the required resources, accommodations, and modifications. Also, it must be remembered that the Team's first responsibility is to decide upon and articulate an appropriate educational program and then to determine what environment will be the "least restrictive" given the student's program needs.

Recommendations

The findings of this study indicate that while there is significant agreement among Team members about the information used to make placement decisions, this agreement does not translate into the ability of Teams to make discriminating decisions about the special education services needed. The Team process as implemented in Massachusetts through the Chapter 766 Regulations is nebulous, imprecise, and depends on one's agreement with the definition of what constitutes a special need. It also depends on one's perception of the purposes of special education which may be counterproductive to achieving the primary goal of providing an appropriate education within the least restrictive environment. For example some teachers view special education as a means for removing troublesome and time consuming children from their classrooms so that they have a more homogeneous instructional group. Many parents, on the other hand, perceive special education services as a bittersweet right or "cure" for their child's achievement deficits when, in fact, it is not a special need but some other psychological or sociological factor that is the cause.
Definitions of handicapping conditions and special education eligibility criteria are topics with little agreement and continuing debate. Perspectives within the debate range from restrictive, well-defined categories with quantifiable eligibility criteria to all inclusive, loose definitions of academic and behavioral skill deficits that promote all children as "special." Teams in Massachusetts are placed in an unenviable position somewhere in the middle of these two extremes. The state's "Eligibility Guidelines" will, with adequate training and sufficient time to adapt to their refined focus, position Teams for more consistent and, in many cases, more defensible placement decisions. They will simultaneously, however, also limit Team flexibility to decide that a child who is struggling to succeed within the regular education program is eligible for special education and the advantages of individualized support services that are not otherwise available. Pursuing the idea that all children's learning is special raises serious resource questions, in addition to those about the purpose of special education and the intent of state and federal legislation. It should be possible, however, to identify a set of student-specific variables that can make valid and reliable discriminations between special needs students who have differing types and degrees of need. Differences among students that are artifacts of legal procedural requirements (e.g., number of IEP goals and objectives, number of people at a Team meeting) rather than specific student characteristics such as handicapping conditions or academic deficits might be important for government reporting purposes but contribute little to improving the identification of students and how best to serve them.

Current reasoning within the Regular Education Initiative (REI) and other organized efforts to make regular education more inclusive are, in part, efforts to reduce spending on special education in order to redirect the funds to regular education. As such, it is unlikely that special education will
become more inclusive and available to all students who might benefit from it. In fact, more restrictive eligibility requirements will leave many students in regular education programs without the support services they require for academic success. In order to make these difficult and more frequently necessary placement decisions, Teams will have to assume the additional responsibility of understanding and synthesizing student learning characteristics so as to suggest individualized classroom modifications, accommodations, and teaching strategies that will support students who they do not determine are eligible for special education.

This study examined only students who were already determined to be eligible for special education. The data appear to indicate that given more discriminating identification guidelines many of these students might no longer be found eligible. Team members have two distinctly different responsibilities. The first is to determine whether a student is eligible for special education by applying the definitional criteria of a special needs child to the student-specific information available to it. The second task is to make an appropriate placement recommendations. The state's suggested guidelines should help Teams improve the accuracy and consistency of their first task. How Teams fulfill the responsibility of the second task is an area in need of additional research.

Future Research

Further research is required to determine whether the results of this study are representative of special education identification and placement throughout Massachusetts. Concerns about rising special education enrollments and the failed obligation of regular education teachers to address the learning needs of special needs students may be justified. However, if the intent of special education legislation, both state and federal, was to provide
services to handicapped children who were previously excluded from public
education, or inappropriately included in special education, then continued
evaluation and research is necessary to determine which children are should be served and how they are determined to be eligible. The primary distinction between those children who are identified and those who are not is the presence of a handicapping condition that interferes with educational progress. It is possible to identify a student's abilities and disabilities with some precision given accepted definitions and assessment techniques. Current Team evaluation practices, flexible eligibility criteria, the procedural rights of parents, and limited educational resources undercut the body of literature that defines the cognitive, behavioral, physical, and sensory characteristics of the various disability categories and improvements in the assessment and identification of these handicaps.

Longitudinal research is needed to determine the efficacy of special education intervention and placement. The dependent measures should not be the accuracy of identification (with the possible exception of sensory impairments and significant physical and cognitive disabilities, where too many factors interfere with measurement consistency) but the outcomes of the intervention. That is, determining whether or not there is a significant benefit to being identified and served as a special needs student. The focus shifts from identification and enrollment figures to effectiveness and support—identifying and determining the nature of the relationships between student characteristics and the programs that were developed to serve them. It may be, that aside from severely disabled students and the early intervention efforts of special education preschool programs, regular education can be as effective at educating special needs students if access and resources are guaranteed.
This study's failure to identify a set of cognitive, achievement, or other student-related measures that are significantly associated with or able to predict the amount of special education services received by a special needs student suggests several additional areas for further investigation.

First, student classroom behavior may be a factor in explaining special education referral and placement. While Team members rated it among the most important factors in their placement decisions, collection of student record or IEP data to support this perception is difficult to identify and collect. This project initially attempted to collect a measure of student behavior from the student IEPs examined but found it necessary to abandon this effort for several reasons. First, the IEP has no specific requirement for the inclusion of measurable data about a student's classroom behavior. Although some inference can occasionally be drawn from the language of the Student Profile, it is often too general and subjective to be useful in making between student comparisons. Second, grouping students according to their special education involvement in school counseling services assumes that the counseling is for the purpose of addressing classroom behavioral issues. In practice, although special education counselors are generally assigned to work with special needs students on school-related issues and behavior, students are often involved with the counselors to help them cope with a variety of issues, including family crises, substance abuse problems, and other issues that might affect school performance but which cannot be considered within the framework of defining a special need. Third, use of the Modified Discipline check-off is not consistent from district-to-district or even within districts and usually signals only those students with severe emotional/behavioral problems that are manifest by extreme acting-out. Students with severe emotional/behavioral
problems that are not manifest by difficulties with adhering to school policies and rules would not be identified in this IEP item.

Further research should examine the relationship between student classroom behavior and special education referral and placement. The focus of the research should not be with students whose primary disability has been identified to be emotional or behavioral in nature but with students such as those included in this study whose need for special education is less well defined. Behavior rating scales and teacher interviews should compare the behavioral characteristics of special needs students with non-special needs students who have similar cognitive abilities and achievement levels.

Second, Team members agreed that reading and math achievement and cognitive ability are the most important factors in making placement decisions. If hours per week of special education is not strongly associated with and cannot be reliably predicted from these student measures, research should be conducted to determine how these measures are used and whether Teams understand the relationship between the two. Given that a component of the Massachusetts eligibility guidelines is the student's failure to make effective progress in the mainstream, how are these measures related to student eligibility for special education services and to Team members understand the nature and relationship of these variables? Do Teams make norm-referenced achievement decisions comparing each student's achievement and ability with similar students? Or, do they informally set a criterion or cut-score for mainstream educational tasks and compare each student with this standard? Students who are determined to be masters of the mainstream educational tasks in question are not eligible for special education. While on the other hand, students who have not mastered the task(s) are assumed not to be making effective progress and therefore should
be placed in special education. The model used by the Team will be influenced by the data available and vice versa. For example, Teams using a model that compares an individual student's performance with that of his age and grade peers (or some other norm group) will require standardized norm-referenced assessment data to make accurate and defensible decisions. Those Teams that decide to make decisions based on the student's performance in relation to a particular set of tasks are aided by the availability of criterion-referenced or curriculum-based assessment information. Whichever model is used and whatever data is collected, Team members must be informed and ever vigilant that the procedures measure what they purport to measure and do so reliably.

Galagan (1985) indicted traditional standardized psychoeducational assessment practices for their lack of validity, reliability, cultural bias, and promotion of separate regular and special education systems. Galagan stated that given the shortcomings and dissatisfaction with "psychometric and projective instruments" and the absence of any legal requirement in P.L. 94-142 to use them in special education identification and placement, curriculum-based assessment (CBA) should be used in its place. Proponents of CBA view it as a response to the perceived shortcomings of standardized tests since it is an attempt to evaluate student progress with respect to performance on tasks sampled from the local curriculum and is more capable of identifying the educational needs of students (Idol, Nevin, & Paolucci-Whitcomb, 1986; Blankenship, 1985; Tucker, 1985). Recently, authentic measurement (performance testing) has received attention as another alternative to the perceived shortcomings of standardized testing techniques. However, as Hambleton and Murphy (1992) discuss, options and alternatives
to the more commonly used standardized objective test format are available and should not be overlooked too quickly.

Team members need to be aware of these developments and shifts. The fact that Team members report reading and math achievement and cognitive ability to be important factors in making placement decisions does not mean that their perceived importance can be allowed to cloud or cancel the need to ensure that the measures of these attributes are valid and reliable. The rush to find new methods for measuring educational progress and assessing learning needs must be at least somewhat restrained by the importance of using techniques and tools that have psychometric integrity. Further research needs to be conducted to determine the level of understanding and use of measurement and assessment principles among Team members.

Third, mainstreaming opportunities were identified as an important factor in Team placement decisions. How are mainstreaming opportunities defined and how does their availability differ between and within school districts? If one school district has more mainstreaming opportunities available than another, do identified special needs children spend significantly less time away from their regular education program? Do the profiles of the students who continue to receive special education outside of their regular education program differ from the profiles of the students in the mainstream? If so, how? What is the relationship between the number of identified special needs students and the availability of mainstream opportunities?

Special education, like many mandated programs, is not adequately funded to fulfill the expectations of either its sponsors or its consumers. It is a field that is required to serve equally all of the children it finds to be eligible for its services (regardless of the cost) while at the same time being faced with
serious internal competition for resources from advocates of particular
disabilities (i.e., parents and other members of associations and support
groups whose primary interests are, for example, learning disabilities, deaf
and hard-of-hearing, attention deficit disordered, or mentally retarded
students) and cumbersome legislation and policy that detail the requirements
of access and equality but remain silent about program quality and
effectiveness.

Special educators are struggling to expand their role and the role of their
students in regular education programs. Mainstreaming and the concept of
least restrictive environment are not new. Massachusetts Chapter 766 was
signed into law in 1972 and Public Law 94-142 was signed in 1975. Still, special
education and special educators are not automatically accepted or included in
mainstream education. It is not a premeditated as much as it is a practical
exclusion. Classroom teachers have grown to expect special education to
serve not only the readily identifiable disabled students (those whose abilities
and behaviors fall well outside of the expected range) but also the students
who are at the edges of what is considered "normal" and require more time
and resources than are available. Special educators have accepted many of
these students, while knowing that alternative sources of intervention and
assistance were not available and that without the additional support the
students would most likely not progress. But, in many cases, they also found
that these students failed anyway because their acceptance into special
education confirmed the suspicions of classroom teachers that they were
"disabled" and the entire responsibility for their education shifted from
regular to special education.

Efforts to share responsibility for special needs students and to
collaborate in the planning and delivery of their educational services are
being revived and widely promoted. The identification of a child as a "child in need of special education" requires a carefully considered decision arrived at by discussing, interpreting, and weighing valid and reliable measures of student performance. It requires a determination that the student's inability to make effective progress is due to the presence of a disability rather than competition for classroom resources and teacher time or annoying behavior. The amount of special education a student receives should be related to the goals and objectives which he or she is expected to attain. It should also, however, be related to other characteristics of the student such as achievement levels and cognitive ability which the Team has used to determine eligibility and the amount of intervention required.
March 8, 1992

«1»

Dear «2»:

I am currently conducting research on the topic of the special education evaluation process. Specifically, I am investigating the relationship between the information available to team members and the amount of special education services a child in need of special education receives.

Your role as a parent is critical to the evaluation process for special education students. Therefore, I am particularly interested in determining which information you feel is valuable in making decisions about the type and amount of special services a child may receive.

Enclosed is a survey for you to complete which will take approximately 10 minutes of your time. Please be assured of complete confidentiality. All information will be reported in aggregate form and your participation will be held in strictest confidence.

I realize that your time is valuable and limited; however, in order for survey results to be representative of parents, it is important that this survey be completed and returned. Similar data will be collected from other members of the evaluation team.

Please return the survey in the enclosed addressed stamped envelope by March 22 or as soon thereafter as possible. If you have any questions or concerns, do not hesitate to call me at 586-6970, extension 451.

Thank you in advance for your time, cooperation and assistance. I look forward to hearing from you and would be glad to share the results with you when the analysis is completed.

Sincerely,

Craig Jurgensen
Coordinator of Special Education
Northampton Public Schools
Doctoral Candidate, University of Massachusetts, Amherst
APPENDIX B

QUESTIONNAIRE

SECTION 1
Evaluation Teams use an array of information to make decisions about the amount of time a special needs student spends in special education. Please rank the importance of the following information when determining the amount of special education (time) a student with special needs will receive. First read the list, then rank from 1 "Most Important" to 10 "Least Important" (use each number only once). A COMMENTS SECTION IS INCLUDED AT THE END OF THE SURVEY.

______ Math Ability
______ Reading Ability
______ Basic Skills
______ Chronological Age
______ Intelligence
______ Behavior
______ Gender
______ Chapter 1 Participation
______ Previous Special Education Services
______ Cultural Background

SECTION 2
Listed below are the different types of information used by Evaluation Teams when determining the number of hours per week a special needs student spends in special education. Please read each statement and circle the number that most closely reflects your feelings about its importance in determining the amount of special education a student will receive. Please be honest - your responses will remain entirely confidential.

<table>
<thead>
<tr>
<th>Statement</th>
<th>UNIMPORTANT</th>
<th>IMPORTANT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Student math ability/skills</td>
<td>1 2 3 4 5</td>
<td>6 7</td>
</tr>
<tr>
<td>2. Student reading ability/skills</td>
<td>1 2 3 4 5</td>
<td>6 7</td>
</tr>
<tr>
<td>3. Student performance on the Massachusetts Basic Skills Test</td>
<td>1 2 3 4 5</td>
<td>6 7</td>
</tr>
<tr>
<td>4. A student's chronological age</td>
<td>1 2 3 4 5</td>
<td>6 7</td>
</tr>
<tr>
<td>5. A student's intelligence</td>
<td>1 2 3 4 5</td>
<td>6 7</td>
</tr>
<tr>
<td>6. A student's behavior</td>
<td>1 2 3 4 5</td>
<td>6 7</td>
</tr>
<tr>
<td>7. Availability of Chapter 1</td>
<td>1 2 3 4 5</td>
<td>6 7</td>
</tr>
<tr>
<td>8. Prior special education services</td>
<td>1 2 3 4 5</td>
<td>6 7</td>
</tr>
<tr>
<td>9. A student's gender</td>
<td>1 2 3 4 5</td>
<td>6 7</td>
</tr>
<tr>
<td>10. A student's record of retention</td>
<td>1 2 3 4 5</td>
<td>6 7</td>
</tr>
<tr>
<td>11. Mainstreaming opportunities</td>
<td>1 2 3 4 5</td>
<td>6 7</td>
</tr>
<tr>
<td>12. Team dynamics</td>
<td>1 2 3 4 5</td>
<td>6 7</td>
</tr>
<tr>
<td>13. Cultural diversity</td>
<td>1 2 3 4 5</td>
<td>6 7</td>
</tr>
</tbody>
</table>
PLEASE answer the following questions by circling "YES" or "NO."

1. Are decisions about the amount of time a special needs student spends in special education based primarily on the information available to the Evaluation Team?  
   YES  NO

2. Are decisions about the amount of time a special needs student spends in special education based primarily on the interpersonal dynamics of the Evaluation Team?  
   YES  NO

3. Do all members of the Evaluation Team use the information available to them in the same manner?  
   YES  NO

4. Does the information about individual students vary in usefulness from student to student?  
   YES  NO

5. Does the amount of time a student spends in special education depend on the composition of the Evaluation Team?  
   YES  NO

BACKGROUND INFORMATION:  Please circle the most appropriate response.

1. Gender:  Male  Female

2. Position:  
   _____ Special Education Administrator
   _____ Parent of a special needs student
   _____ Special education teacher
   _____ School Principal
   _____ School Psychologist

3. No. of years in present position:  1-5  5-10  10-15  More than 15

4. No. of years involved with special education:  1-5  5-10  10-15  More than 15

5. Highest degree earned:  Bachelor's  Master's  CAGS  Doctorate

COMMENTS  Please use the space below or attach comments you think will help with this project.

THANK YOU FOR YOUR TIME

PLEASE USE THE ENCLOSED ENVELOPE FOR RETURNING THE SURVEY

Craig Jurgensen
West Road, Box 142-S
Ashfield, MA 01330
FOLLOW-UP POSTCARD

March 26, 1991

Last week a questionnaire was mailed to you concerning your thoughts about the different student information that is used by Chapter 766 Evaluation Teams to make decisions about the amount of time a special needs student spends in special education. If you have already completed and returned the survey, please accept my sincere thanks. If not, please return it today. As you know, in order to accurately represent the thoughts and feelings of various evaluation Team members, it is important that your responses be included in my study.

If by some chance you did not receive the questionnaire, or it was misplaced, please call me (586-6970, ext. 451) and I will get another survey in the mail to you today.

Sincerely,
Craig Jurgensen
REFERENCES


Education for All Handicapped Children Act of 1975, Public Law 94-142.


