A STUDY TO INVESTIGATE THE INFORMATION BASE USED TO PLACE HANDICAPPED CHILDREN IN THE NORTH CAROLINA PUBLIC SCHOOLS

by

Carolyn Jean Worley

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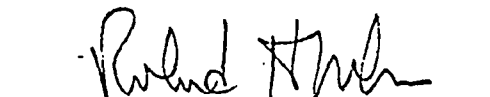

Dissertation Advisor

APPROVAL PAGE

This dissertation has been approved by the following committee of the Faculty of the Graduate School at the University of North Carolina at Greensboro.

Dissertation Advisor _____

Committee Members _____

_____

_____

_____

2-27-79
Date of Acceptance by Committee

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It was the purpose of this study to investigate the information base used to place handicapped children in the North Carolina public schools It was hypothesized that school district size and types of handicapping conditions would make no significant difference in the extent of use of evaluative information, program option availability, and availability of support services.

The subjects were 81 special education coordinators in North Carolina local education agencies. The subjects were divided into three categories according to school district size: small school districts, medium school districts, and large school districts. Equal n's of 27 appeared in each category.

The data were collected using an inquiry form. The subjects answered questions regarding extent of use of evaluative information, program option availability, and support service availability. The subjects' responses were classified into three groups on the basis of school district size--small, medium, large--and on the basis of types of handicapping conditions--emotionally handicapped, educable mentally retarded, trainable mentally retarded, multi-handicapped, and learning disabled. Difference scores were

analyzed with analysis of variance, analysis of variance of binomial populations, and Duncan's new multiple range test.

The findings indicate that school district size and type of handicapping conditions do have a significant effect on required and optional evaluative information.

From the sample drawn, small school districts tend not to use as great a variety of evaluative data as do medium and large school districts. Large school districts tend to comply to the greatest extent with rules set forth by the North Carolina State Department of Public Instruction which govern the use of evaluative information.

The data showed that required evaluative information used to place emotionally handicapped and multi-handicapped children is alike. Information to place educably mentally retarded, trainable mentally retarded, and learning disabled children is alike. However, the two groupings are significantly different from each other. The data for optional evaluative information showed that information used to place emotionally handicapped children is different from all others. Optional evaluative information for placement of multi-handicapped children is different from all others. Optional evaluative information for placement of educable mentally retarded, trainable mentally retarded, and learning disabled children is alike.

The interaction of school district size and type of handicapping conditions revealed significant differences in the extent of use of evaluative information. Large school districts treat information for emotionally handicapped and multi-handicapped children similarly to information used for the other three categories. Extent of use of information for educable mentally retarded, trainable mentally retarded, and learning disabled children is treated in similar fashion across school district size.

Educational program option availability is also affected by school district size and type of handicapping conditions.

The data revealed that large school districts have a greater array of program options than do small or medium school districts. Educational program options for trainable mentally retarded, emotionally handicapped, and learning disabled children are similar. Program options for learning disabled and educable mentally retarded children are similar. In other words, statistical analysis showed similarities across handicapping conditions.

There was no significant interaction found between school district size and type of handicapping conditions and the availability of educational program options.

Data concerning school district size and type of handicapping conditions and the interaction of the two on support service availability did not reveal significant effects.

"As every man goes through life he fills in a number of forms for the record, each containing a number of questions. A man's answer to one question on one form becomes a little thread, permanently connecting him to the local center of personnel records administration. There are hundreds of little threads radiating from every man, millions of threads in all. If these threads were suddenly to become visible, the whole sky would look like a spider's web... . They are not visible, they are not material, but every man is constantly aware of their existence. The point is that a so-called completely clean record was almost unattainable, an ideal, like absolute truth. Something negative or suspicious can always be noted down against any man alive. Everyone is guilty of something or has something to conceal. All one has to do is look hard enough to find out what it is.

Each man, permanently aware of his own invisible threads, naturally develops a respect for the people who manipulate the threads, who manage personnel records administration, that most complicated science, and for these people's authority."

CANCER WARD
A. Solzhenitsyn

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TABLE OF CONTENTS

	Page
APPROVAL PAGE	ii
ACKNOWLEDGEMENTS	iii
LIST OF TABLES	vii
LIST OF FIGURES	ix
CHAPTER	
I. INTRODUCTION	1
Purpose of the Study	3
II. REVIEW OF LITERATURE	6
Court Cases Relating to Classification and Placement Procedures and the Right to Education	6
Federal and State Legislation Governing Education Programs for the Handicapped	12
Literature Relating to the Information Base Used to Place Handicapped Children in the Public Schools	22
Information and Decision Making	25
III. METHOD	29
Overview	29
Subjects	30
Development of the Research Instrument	30
Statistical Design	33
IV. RESULTS	36
V. DISCUSSION	44
School District Size	44
Types of Handicapping Conditions	46
Interaction of School District Size and Type of Handicapping Condition	49
Total Frequency Responses to Each Individual Item	50
Summary and Recommendations	51

Page

BIBLIOGRAPHY 53

APPENDICES 57

APPENDIX A 58

Cover Letter 59
Sample Instruction Sheet 60
Inquiry Form 61

APPENDIX B 63

Duncan's New Multiple Range Test Applied to the Mean Differences Between School Size and Extent of Use of Required Information 64
Duncan's New Multiple Range Test Applied to the Mean Differences Between Type of Handicapping Condition and the Extent of Use of Required Information . . . 65
Duncan's New Multiple Range Test Applied to the Mean Differences Between School Size and Type of Handicapping Condition and Extent of Use of Required Information 66

APPENDIX C 67

Duncan's New Multiple Range Test Applied to the Mean Differences Between School Size and Extent of Use of Optional Information 68
Duncan's New Multiple Range Test Applied to the Mean Differences Between Type of Handicapping Condition and the Extent of Use of Optional Information . . . 69
Duncan's New Multiple Range Test Applied to the Mean Differences Between School Size and Type of Handicapping Condition and Extent of Use of Optional Information 70

APPENDIX D 71

Duncan's New Multiple Range Test Applied to the Mean Differences Between School Size and Program Option Availability 72
Duncan's New Multiple Range Test Applied to the Mean Differences Between Type of Handicapping Condition and Program Option Availability 73

Page

APPENDIX E 74

Individual Item Responses for Required Evaluative Information Relating to EH Programs 76
Individual Item Responses for Required Evaluative Information Relating to EMR Programs 77
Individual Item Responses for Required Evaluative Information Relating to TMR Programs 78
Individual Item Responses for Required Evaluative Information Relating to MH Programs 79
Individual Item Responses for Required Evaluative Information Relating to LD Programs 80

APPENDIX F 81

Individual Item Responses for Optional Evaluative Information Relating to EH Programs 83
Individual Item Responses for Optional Evaluative Information Relating to EMR Programs 84
Individual Item Responses for Optional Evaluative Information Relating to TMR Programs 85
Individual Item Responses for Optional Evaluative Information Relating to MH Programs 86
Individual Item Responses for Optional Evaluative Information Relating to LD Programs 87

APPENDIX G 88

Individual Item Responses for Program Option Availability 89

APPENDIX H 90

Individual Item Responses for Support Services Availability 91

LIST OF TABLES

Page

Analysis of Variance of Effect of School Size and Type of Handicapping Conditions on Required Information . . 36

Analysis of Variance of Effect of School Size and Type of Handicapping Conditions on Optional Information . . 39

Analysis of Variance of Effect of School Size and Type of Handicapping Conditions on Program Option Availability 41

Analysis of Variance of Effect of School Size and Type of Handicapping Conditions on Support Service Availability 42

Duncan's New Multiple Range Test Applied to the Mean Differences Between School Size and Extent of Use of Required Information 64

Duncan's New Multiple Range Test Applied to the Mean Differences Between Type of Handicapping Condition and the Extent of Use of Required Information 65

Duncan's New Multiple Range Test Applied to the Mean Differences Between School Size and Type of Handicapping Conditions and Extent of Use of Required Information 66

Duncan's New Multiple Range Test Applied to the Mean Differences Between School Size and Extent of Use of Optional Information 68

Duncan's New Multiple Range Test Applied to the Mean Differences Between Type of Handicapping Condition and the Extent of Use of Optional Information 69

Duncan's New Multiple Range Test Applied to the Mean Differences Between School Size and Type of Handicapping Condition and Extent of Use of Optional Information 70

Page

Duncan's New Multiple Range Test Applied to the Mean Differences Between School Size and Program Option Availability 72

Duncan's New Multiple Range Test Applied to the Mean Differences Between Type of Handicapping Condition and Program Option Availability 73

Individual Item Responses for Required Evaluative Information Relating to EH Programs 76

Individual Item Responses for Required Evaluative Information Relating to EMR Programs 77

Individual Item Responses for Required Evaluative Information Relating to TMR Programs 78

Individual Item Responses for Required Evaluative Information Relating to MH Programs 79

Individual Item Responses for Required Evaluative Information Relating to LD Programs 80

Individual Item Responses for Optional Evaluative Information Relating to EH Programs 83

Individual Item Responses for Optional Evaluative Information Relating to EMR Programs 84

Individual Item Responses for Optional Evaluative Information Relating to TMR Programs 85

Individual Item Responses for Optional Evaluative Information Relating to MH Programs 86

Individual Item Responses for Optional Evaluative Information Relating to LD Programs 87

Individual Item Responses for Program Option Availability 89

Individual Item Responses for Support Services Availability 91

LIST OF FIGURES

Page

A Continuum of Programs and Services Model 21

Effect of School Size and Types of Handicapping Conditions on Extent of Use of Required Information. . 38

Effect of School Size and Types of Handicapping Conditions on Extent of Use of Optional Information. . 40

CHAPTER 1

INTRODUCTION

Public school personnel, especially special educators, are faced with the task of providing to handicapped children an instructional program which will meet the educational needs of each child. To meet these needs children must be appropriately classified, resources must be available and, as a result, alternatives within the educational environment must be assessed so that the selected instructional program does, in fact, meet the child's specific educational needs.

The ultimate goal is that quality decisions will be made in the selection of appropriate instructional programming. According to Vroom and Yelton (1973), if a rational (quality) solution to a problem is to be obtained, one resource that is most critical to the decision-making process is information--information necessary to the task of evaluating the quality or rationality of different alternatives available to the organization.

Litigation and research studies have focused on the lack of adequate information used to classify and place handicapped children in the public schools. With few options and the absence of programs for handicapped children, many decision makers reached arbitrary and capricious decisions with little attention to data collection and/or consideration of possible

alternatives. As a result of this evidence, judicial decisions and legislative efforts have sought to establish a rational procedural framework for making individual placement decisions.

Federal legislation enacted in 1975 (Public Law 94-142) governs action taken with respect to the initial placement of a handicapped child into a special education program. Public education agencies must now insure a full and individual evaluation of a child's educational needs. The evaluation should result in an educational placement which meets the child's specific educational needs (Department of Health, Education, and Welfare, 1977).

In July, 1977, the North Carolina General Assembly adopted Chapter 927, An Act to Provide for a System of Educational Opportunities for All Children Requiring Special Education. Section 115-360 of the General Statutes brings state law, regulations, and practice into conformity with Public Law 94-142. A placement committee at the local level now has the responsibility to obtain child evaluation information, to determine child eligibility and needs, and to recommend placement. In fulfilling this responsibility, the placement committee must draw its decisions from information which should include a multifactored assessment of the child, program option availability, and availability of support services (North Carolina Department of Public Instruction, 1978).

In North Carolina, local education decision makers must

provide program options and support services to handicapped children despite school district size and incidence figures. Information needed for evaluation of a child's handicapping condition and prescription of needed services may vary according to handicapping condition. Local education agency personnel are now responsible for seeking this required information, specific to the child's needs, in order to make an appropriate placement decision.

Changes in law and regulation do not automatically insure altered decision-making behavior. Before appropriate educational placements can be guaranteed, an adequate information base must be available to the decision makers.

A review of the research related to classification and placement, legal precedents, and regulatory legislation follows to determine the information base needed and mandated prior to a placement decision. The literature review will also contain research relating to the concept of information as it pertains to sound decision-making processes.

Purpose of the Study

The present study was conducted to investigate the information base used to place handicapped children in the North Carolina public schools. The data were compiled from an inquiry form sent to coordinators of special education in 145 local education agencies. The inquiry form (see Appendix A) consisted of items relating to: (1) information used for evaluation prior to placement, (2) educational program options

available, and (3) availability of support services complementing educational programs.

School district size and type of handicapping conditions were chosen to demonstrate possible disparities in the information base utilized for placement decisions.

For the purposes of this study, the following predictions were stated as null hypotheses:

1. There will be no significant difference in school district size and the extent of use of required information.

2. There will be no significant difference in type of handicapping condition and the extent of use of required information.

3. There will be no significant difference in the interaction between school district size and types of handicapping conditions and the extent of use of required information.

4. There will be no significant difference in school district size and the extent of use of optional information.

5. There will be no significant difference in types of handicapping conditions and the extent of use of optional information.

6. There will be no significant difference in the interaction between school district size and types of handicapping conditions and the extent of use of optional information.

7. There will be no significant difference in school district size and the educational program options availability.

8. There will be no significant difference in types of handicapping conditions and educational program options availability.

9. There will be no significant difference in the interaction between school district size and types of handicapping conditions and educational program options availability.

10. There will be no significant difference in school district size and support service availability.

11. There will be no significant differences in types of handicapping conditions and support service availability.

12. There will be no significant difference in the interaction between school district size and types of handicapping conditions and support service availability.

CHAPTER 2

REVIEW OF LITERATURE

Court Cases Relating to Classification and Placement Procedures and the Right to Education

In Hobson v. Hansen (1967) Judge J. Skelly Wright issued a decision abolishing the "track system" in the District of Columbia schools. Placement of children in an educational "track system" was on the basis of ability tests such as the Stanford-Binet Intelligence Test and the Otis Test of Mental Ability. Judge Wright concluded that the findings clearly showed that black children dominated the lower tracks and that test scores were used to deny equal educational opportunity to a certain segment of society. In Spangler v. Pasadena Board of Education (1970) the court found racial imbalance in the Pasadena schools and determined that this imbalance was partly due to the use of intelligence tests for placement of students.

Further exception was taken to the use of intelligence tests when Diana v. the Board of Education (1970) was filed in the District Court of Southern California on behalf of nine Mexican-American students. These students were given the Stanford-Binet and the Wechsler Intelligence Tests in English, and as a result of their scores, were placed in classes for the

mentally retarded. The issue involved was whether the intelligence tests were culturally biased. The harm alleged to be suffered by the students included irreparable injury due to an inadequate education and the stigma of mental retardation. The case resulted in a consent decree requiring the development of new or revised intelligence tests reflecting abilities of Mexican-Americans, the administration of tests in the primary language and English, and the retesting in their primary language of children already in classes for the mentally retarded. Since the decree, nearly 10,000 students have been returned to regular classrooms.

Arreola v. Board of Education (1968), also filed in California, sought relief against identification and placement procedures on behalf of Mexican-American children. Covarrubias v. the San Diego Unified School District (1971) was filed on behalf of twelve black and five Mexican-American children who were placed in classes for the educable mentally retarded. Both cases dealt with the major issue of improper placement of children in classes for the mentally retarded on the basis of tests given in English by white, monolingual examiners.

In Boston, Stewart v. Phillips (1970) sought relief for all black and poor Boston public school students who were not mentally retarded but were in special education classes, who were mentally retarded but were being denied placement

into special education programs, and whose parents were denied an opportunity to participate in placement decisions. As a result of this case, new statewide regulations were adopted which called for a full prior evaluation, the elimination of the use of labels insofar as possible, integration into regular classrooms insofar as possible, and procedural due process rights of placement.

In Larry P. v. Riles (1971), filed in Northern California, factual issues involved improper placement of black children due to testing procedures that failed to recognize the children's unfamiliarity with white middle-class cultural background. It was argued that classes for the mentally retarded do not provide the necessary competencies for children to become economically useful and socially adjusted and that a disproportionate number of black children were enrolled in classes for the retarded. In 1972, the United States District Court enjoined the Northern District of California from placing black students in classes for the retarded on the basis of intelligence testing procedures which did not reflect learning experiences in the home environment, if the consequences of using such procedures led to racial imbalance in classes for the educable mentally retarded.

The Pennsylvania Association for Retarded Children v. Commonwealth of Pennsylvania (1972) case, brought to court on behalf of all retarded children in Pennsylvania who were

excluded from school, and the Mills v. the Board of Education of the District of Columbia (1972) suit, brought on behalf of all children in the District of Columbia, had similar issues. Both sought to establish the constitutional principle that children excluded from school as uneducable were entitled to publicly supported educational opportunities. Both insisted on procedural protection of children before placement in special programs. The court decreed in both cases that excluded children be found, evaluated, and appropriately placed in programs which met individual needs; it stressed the need for educating children in the least restrictive educational environment; it required that all children in special classes and children recommended for special classes re reevaluated every two years; and, finally, that procedural due process hearings be conducted at the request of parent or child whose placement in a special class is recommended, denied, or changed.

In the Mills case, the defendants claimed in response to the decree that it would be impossible for them to afford relief sought by the plaintiffs. The court declared, in return, that the inadequacies of the District of Columbia public school system, whether due to insufficient funding or administrative inefficiency, could not bear more heavily on the handicapped child than on the normal child (Weintraub and Abeson, 1976).

Martinelli (1976) recognized that special education is but one entity in the complex formal institution of education. Consequently, there are many external and internal factors which may hinder a school district from complying with policies mandated by all levels of government.

Three of the major external factors Martinelli (1976) discussed relate to school district size: distribution of the student population, social attitudes toward education, and economic factors. He noted that many parents of handicapped children have moved from rural to urban school districts in order for their children to receive special education and support services unavailable in sparsely populated districts. The increased number of handicapped children in urban areas has grown faster than some large, urban school districts could accommodate for the childrens' educational needs. The decline in the numbers of handicapped children in rural areas has made special education a more costly resource to provide in small, rural school districts.

Preferences, in school districts, toward a production or consumer emphasis in education may affect the availability of educational resources to handicapped children. These preferences may or may not be in harmony with state and national emphases. If local economic investment in education is based on economic return, there will be minimal provision of educational programs for those handicapped children who are viewed

as nonproductive members of society (Martinelli, 1976).

The local education agency's fiscal ability and effort are strong determinants in the provision of appropriate educational services to the handicapped child. Inequities in the capabilities of local education agencies to finance educational services vary greatly from district to district. Some state legislative bodies have not acted to eliminate the inequities (Martinelli, 1976). The court ruled it the responsibility of the State, in Case v. California (1974), to provide adequate and equal educational opportunities for all children, handicapped or otherwise. In other words, if inequities exist, they must exist across all programs in the school system.

The court established in Lebanks v. Spears (1973) that every child who is mentally retarded or suspected of being mentally retarded is entitled to:

> (a) evaluation and development of a special education plan and periodic review and (b) provision of a free public program of education and training appropriate to his age and mental status (Department of Health, Education, and Welfare, 1974, p. 14).

There was also the assumption that

> ... among alternative programs and plans placement in regular public school class with the appropriate support services is preferable to placement in special public school class and placement in a special public school class is preferable to placement in a community training facility ... (Department of Health, Education, and Welfare, 1974, p. 14).

In Rainey v. Tennessee Department of Education (1974), the court established that handicapped children be provided special educational services in as normal an educational environment as possible and that labeling of individual children should be minimized.

As a final note to classification, placement, and right to education issues, an important principle was established in Colorado Association for Retarded Children v. Colorado (1972) that "...mere enactment of legislation without actual implementation does not render substantial legal questions moot" (Department of Health, Education, and Welfare, 1974, p. 27).

Federal and State Legislation Governing Educational Programs for the Handicapped

The Education Amendments of 1974 (Public Law 93-380) were the first major pieces of legislation requiring states to establish goals of providing full educational opportunities for all handicapped children. In addition, the bill provided procedural safeguards for use in identifying, evaluating, and placing handicapped children. Another key element, closely related to due process, was the requirement that handicapped children be placed for educational purposes in the least restrictive alternative setting. The law called for states

to adopt:

> (B) procedures to insure that, to the maximum extent appropriate, handicapped children, including children in public or private institutions or other care facilities, are educated with children who are not handicapped, and special classes, separate schooling, or other removal of handicapped children from the regular education environment occurs only when the nature or severity of the handicap is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily (Department of Health, Education, and Welfare, 1974, Sec. 612 (d) (13B).

On November 29, 1975, President Gerald Ford signed into law the federal Education for All Handicapped Children Act (Public Law 94-142), amendments to Public Law 93-380. Hearings conducted by Congress prior to enactment indicated in part the following:

> (1) There are more than 8 million handicapped children in the United States;
>
> (2) the special education needs of these children are not fully met;
>
> (3) more than half of the handicapped children in the United States do not receive appropriate educational services which would enable them to have full equality of opportunity;
>
> (4) one million of the handicapped children in the United States are excluded entirely from the public school; and
>
> (5) there are many handicapped children throughout the United States participating in regular school programs whose handicaps prevent them from having a successful educational experience because their handicaps are undetected (Department of Health, Education, and Welfare, 1975, Sec. 3(b)).

The purpose of the Act as stated is:

> . . . to assure that all handicapped children have available to them, . . . a free appropriate public education which emphasized special education and related services designed to meet their unique needs, to assure that the rights of handicapped children and their parents or guardians are protected, to assist States and localities to provide for the education of all handicapped children and to assess and assure the effectiveness of efforts to educate handicapped children (Department of Health, Education, and Welfare, 1975, Sec. 3(c)).

Regulatory legislation complementing Public Law 94-142 was published in the Federal Register on August 23, 1977. These regulations govern implementation of Public Law 94-142 by providing interpretations of the law to State Education Agencies. Only those sections of the regulations that apply to the present study will be included herein.

As stated in the Federal Register (1977), the purpose of the regulations is "to insure that all handicapped children have available to them a free appropriate public education which included special education and related services to meet their unique needs (Department of Health, Education, and Welfare, 1977, Sec. 121a.1).

The term special education means "specially designed instruction, at no cost to the parents, to meet the unique needs of a handicapped child, including classroom instruction, instruction in physical education, home instruction, and instruction in hospitals and institutions (Department of Health, Education, and Welfare, 1977, Sec. 121a.14).

The regulations specify further that prior to any action taken with respect to the initial placement of a handicapped child local education agencies must now insure a full and individual evaluation of a child's educational needs. A single procedure may no longer be used as the sole criterion for determining a child's educational programming. In making placement decisions, the local education agency must draw upon evaluative information from a variety of sources. The evaluative information collected includes, where appropriate, health, vision, hearing, social and emotional status, general intelligence, academic performance, communicative status, motor abilities, teacher recommendations and cultural background. The tests and other evaluation materials used to assess all areas of the child's suspected disability must be validated concerning the specific purpose for which they are used and must be administered by trained personnel (Department of Health, Education, and Welfare, 1977, Sec. 121a.531 - Sec. 121a.532).

According to the regulations, placement decisions must be made in conformity with the least restrictive environment concept and must take into consideration supportive services (related services) required to assist a child with special needs in benefiting from a special education program. Local education agencies must insure a continuum of alternative

placements to meet the educational needs of handicapped children. The continuum consists of specific options: regular classroom, regular classroom with support services, special classes, special schools, home and hospital instruction, and institutions (Department of Health, Education, and Welfare, 1977, Sec. 121a.550). Supportive services (related services) may fall anywhere along the continuum. These services include but are not limited to speech pathology and audiology, psychological services, physical and occupational therapy, recreation, early identification and assessment, counseling and medical services for diagnostic and evaluative purposes, school health services, social work services, parent counseling and training, and transportation (Department of Health, Education, and Welfare, 1977, Sec. 121a.13).

In July, 1977, the North Carolina General Assembly adopted Chapter 927, An Act to Provide for a System of Educational Opportunities for All Children Requiring Special Education. Section 115-360 brings State law and practice into conformity with Public Law 94-142. The State policy requires the State to "provide a free appropriate publicly supported education to every child with special needs" (House Bill 6088, 1977, p. 1). Before any child is placed into a special education program,

> each local education agency shall cause a multi-disciplinary diagnosis and evaluation to be made of the child . . . shall use the diagnosis and evaluation to determine if the child has special needs, diagnose and evaluate those needs, propose special education programs to meet those needs, and provide or arrange to provide such programs (p. 12).

The North Carolina State Department of Public Instruction, Division for Exceptional Children, provides rules governing programs and services for handicapped children. These rules conform to state legislation. Local education agencies are responsible for adopting board of education policy to State Department of Public Instruction rules in order to insure implementation of state and federal legislation.

Local boards of education must make available a multi-factored assessment before any child can be placed in a special education program. The purpose of this assessment is to provide a comprehensive view of the child from the perspectives of the school, home, and community. The data to be collected include, but are not limited to, ability and achievement data, information on physical condition, socio-cultural background, and adaptive behavior both in the home and at school. The evaluations must be performed by qualified examiners (North Carolina State Department of Public Instruction, 1978, pp. 27-33).

The rules governing programs for handicapped children in

North Carolina do specify evaluative information which is unique to each type of handicapping condition.

This study focuses on five handicapping conditions -- emotionally handicapped, educable mentally retarded, trainable mentally retarded, multi-handicapped, and learning disabled. The North Carolina Rules Governing Programs for Children With Special Needs define each type of handicapping condition as follows:

> Seriously Emotionally Handicapped. A serious emotional handicap in children is defined as behavior that is developmentally inappropriate or inadequate in educational settings as indicated by one or more of the following characteristics: (1) an inability to learn that cannot be explained by intellectual, sensory, neurophysical or general health factors; (2) an inability to build or maintain satisfactory interpersonal relationships with peers or teachers; (3) inappropriate or immature types of behaviors or feelings under normal conditions; (4) a general pervasive mood of unhappiness or depression; (5) a tendency to develop physical symptons, pains or fears associated with personal or school problems. The behavior must be of sufficient duration, frequency and intensity to call attention to the need for intervention on behalf of the child to insure his/her educational success (p. 8).

> Mentally Handicapped. Significantly subaverage general intellectual functioning existing concurrently with deficits in adaptive behavior and manifested during the developmental period. The adaptive behavior refers primarily to the effectiveness of the individual in adapting to the natural and social demands of his/her environment. It has two major facets: (1) the degree to which the individual is able to function independently and (2) the degree to which he/she meets satisfactorily the culturally imposed demands of personal and social responsibility (p. 7).

> Multiply Handicapped. Students who have a combination of two or more handicaps (examples: mentally handicapped/emotionally handicapped, and deaf/blind) the combination of which causes such developmental and educational problems that the children cannot be properly accommodated in special programs that primarily serve one area of handicapping condition (p. 8).

> Specific Learning Disabilities. Pupils who exhibit a specific learning disability have at least average intellectual ability or are capable of average intellectual ability. These pupils manifest a significant discrepancy between their current educational placement and their current performance. This discrepancy is the result of a deficiency in prerequisite skills and/or performance necessary in the academic areas of reading, spelling, mathematics or handwriting. These deficiencies cannot be attributed to the presence of visual, auditory, or motor handicapping conditions, primary emotional disturbance, cultural, environmental, or economic disadvantage (pp. 8-9).

Information which is required for the five types of handicapping conditions include: Initial referral from teacher, principal, parent, surrogate parent, or bona fide agency; parent permission for evaluation; student observation report; parent permission for services; student cumulative records; student achievement records; description of educational programs/services needed; and psychological information. Additional required evaluative information for each type of handicapping condition includes:

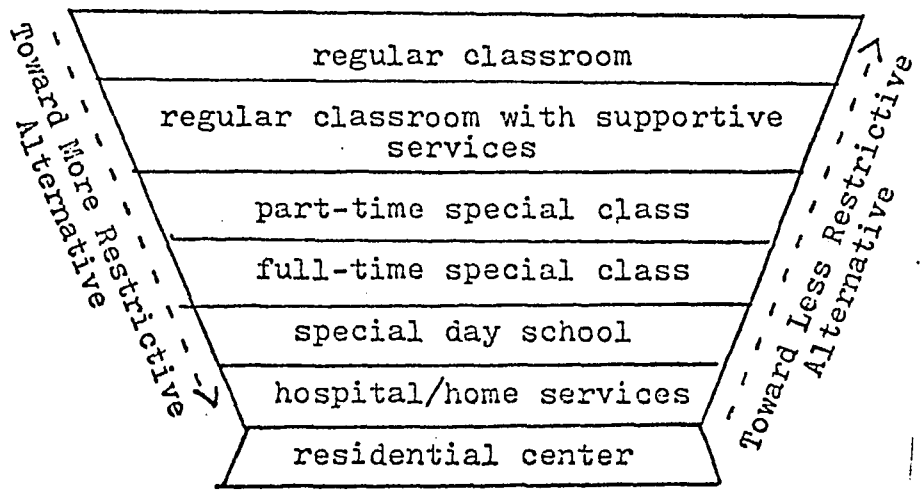
1) emotionally handicapped: adaptive behavior;

> 2) educable mentally retarded: medical screening, adaptive behavior, psycho-motor abilities, hearing screening, and vision screening;
>
> 3) trainable mentally retarded: medical evaluation, adaptive behavior, psycho-motor abilities, speech/language evaluation, hearing screening, and vision screening;
>
> 4) multi-handicapped: medical evaluation, adaptive behavior, psycho-motor abilities, speech/language evaluation, hearing screening, and vision screening; and
>
> (5) learning disabled: no other required than those listed above (p. 31).

The rules also specify program options and related (support) services to be made available to insure that a child's educational needs are met. The State has adopted a continuum of programs and services model which defines levels of educational programs. The continuum is shown in Figure 1. In the framework of the concept of the least restrictive alternative environment, the rules specify that to the maximum extent possible, handicapped children shall be educated in the regular classroom. When the regular classroom does not meet the needs of the child, supportive services should be provided prior to removal. Special schools, separate schools, or placement elsewhere should occur only when regular classes, even with supportive services, cannot meet educational needs satisfactorily (North Carolina State Department of Public Instruction, 1978, pp. 10-11).

FIGURE 1

A Continuum of Programs and Services Model*



Literature Relating to the Information Base Used to Place Handicapped Children in the Public Schools

The problem of classifying a child as handicapped and placing the child into special education programs has been under attack for many reasons. The major theme found throughout such attacks is that placement decisions based solely on a label do not lead to effective treatment (Goldstein, Moss, and Jordan, 1965; Rosenthal and Jacobson, 1968; Dunn, 1968; Jones, 1972).

The Project on Classification of Exceptional Children, supported by the United States Department of Health, Education and Welfare, undertook to study the issue of classification and its ensuing consequences for children. The report recognized the misuse of classification. However, the report also emphasized the importance of classification for communication and problem solving. One conclusion reported from the past research efforts was that classification is essential to obtain services for children, to plan and organize programs, and to determine outcomes of intervention efforts. An alternative to classical classification is to improve the kinds of information used to place children. The designing of a plan to help a child grow and learn requires much specific information about the child and his or her immediate world. To provide such information, construction of a profile of

assets and liabilities of the child is required. The profile should include a description of physical attributes, salient features of medical, psychological and educational evaluation, and should specify what the child can and cannot do, what the child can be taught, and what is expected of him/her. It should further include interactions between the child and significant people who interact with him and the child and his/her environment. This alternative classification system views the child as residing in an ecological system of which he/she is an integral part. The child is no longer the sole focus of assessment and intervention (Hobbs, 1975).

Reynolds (1971) stated that:

> Special education should be arranged so that the normal home, school, and community life is maintained whenever feasible. Special education placements, particularly those involving separation from normal school and home life, should be made only after careful study and for compelling reasons (p. 425).

In an earlier work, Reynolds (1968) spoke of consideration of alternative variables affecting placement decisions. He contended that when alternative school procedures are available, it is not wise to begin placement procedures by looking only at traditional categories; and that decision makers must make certain that each child is provided the placement within the resources which is most likely to serve the child effectively. In determining which placement will insure

effective treatment, two kinds of variables should be taken into consideration: 1) source variables--identification of the problem, and 2) decision variables--educational placement information. School personnel must interpret these variables to produce aptitude-treatment-interaction programs for the child.

Mercer (1975) conducted a study on mental retardation from a clinical and social system perspective which concluded that public schools need to adopt a multi-cultural, pluralistic assessment which would lead to the development of educational programs enabling the child to function in a pluralistic society. The assessment framework would include an identification of the social milieu in which the child is reared, an assessment of adaptive behavior, an evaluation of the child's general academic readiness in relation to the public school population and to his own socio-cultural milieu, an inventory of the child's medical history, and a screening for physical impairments.

Cruickshank and Johnson (1958) wrote that judgments made concerning educational placement without a complete assessment of a handicapped child's characteristics could not be sound. They defined a complete assessment which would include the abilities and limitations of the child, his/her home, and his/her community.

Deno (1970) recommended that decision makers view educational services for handicapped children organizationally as a cascade system from regular classroom placement to hospital and domiciled settings. The cascade system was based on the assumption that children are seldom all capable or totally handicapped. It recognized that children cannot be adequately classified categorically; rather, that children needed to be programmed individually by means of specific teaching objectives. The decision-making process should involve technical judgment by decision makers as to the appropriateness of services along this cascade system for a given child.

Information and Decision Making

The review of special education literature has defined various aspects of an adequate information base necessary for making decisions relative to the educational placement of handicapped children in public schools. The review fails, however, to delineate the value of this information base to the process of achieving a rational (quality) decision.

According to Kast and Rosenzweig (1974) information is a basic ingredient for decision making. Information consists of facts, numbers, and data which are processed to provide additional knowledge relevant to a problem in question. These components of information alter the degree of uncertainty in a given situation and are evaluated in terms of their

pertinence for making a decision. A system of information flow is vital to the decision-making process.

Iannaccone (1964) described the quality of decision making in an organization as related to the amount of information available concerning issues in question. Vroom and Yetton (1973) stated that the achievement of a rational (quality) decision depends on correctly identifying the problem and having the best possible information to choose the most correct alternative for a solution. The quality of a decision reaches its highest point when full information is available.

Brubaker and Nelson (1974) stated that decision makers should remember three factors during the decision-making process: (1) the quality of the decision, (2) the extent to which the decision is acceptable to those who must implement it, and (3) the time available for making the decision and implementing it. When quality is of paramount consideration, sufficient data must be available to assess resources and the extent to which the best possible solution can be reached with those resources.

Decision making is considered by Shull, Delbecq, and Cummings (1970) to include three phases of information processing. An individual must: (1) perceive and recall information to understand the situation, (2) process and transform information in order to produce a set of alternative

courses of action, and (3) choose a course of action from the alternatives.

Decision making is defined by Dill (1964) to cover several phases: agenda building, search, commitment, implementation, and evaluation. Information is used in the "search" phase to evaluate alternative courses of action. Kimbrough and Nunnery (1976) describe four stages in making a decision: (1) awareness of a need for a decision, (2) designing situations, (3) selecting alternatives, and (4) taking action. "Information collection is not identified as an explicit stage because it is needed at each stage" (p. 120).

Decision making has been viewed as a process. Information is a vital part of this process. Persons in the public schools responsible for educational placement decisions should realize the importance of an adequate information base prior to selecting alternative courses of action and choosing the alternative which will best meet the unique educational needs of the handicapped child.

In summary, the literature on litigation revealed that courts have decreed that handicapped children have been discriminated against through the use of inappropriate assessment tools, testing situations, and faulty decisions regarding placement. Federal and State laws have been formulated to

insure the rectification of these discriminatory practices. Professionals in the field of special education have provided suggestions for ways to implement the regulations which interpret the law. It is now the responsibility of local education agency personnel to obtain an adequate information base to include multi-faceted evaluation data and information regarding program options and support services availability prior to making placement decisions.

The absence of research to determine if decision-makers in local education agencies have an adequate information base prior to making placement decisions is blatant.

CHAPTER III

METHOD

Overview

Special education coordinators in North Carolina local education agencies completed a mailed inquiry form for the purpose of determining the information base used to place handicapped children into North Carolina public school classrooms. The inquiry form was designed to study the extent of use of required and optional information in educational placement decisions, the program continuum available, and support services available for five handicapping conditions: the emotionally handicapped (EH) child, the educable mentally retarded (EMR) child, the trainable mentally retarded (TMR) child, the multi-handicapped (MH) child, and the learning disabled (LD) child.

In order to investigate the relationship of school district size to the information base used, the inquiry forms were distributed into three categories: small (s) school district size, medium (m) school district size, and large (l) school district size. The data were then statistically analyzed to determine if there were significant differences in information used, programs available, and support services for any of the five handicapping conditions.

Subjects

Initially, the subjects were 145 special education coordinators in each local education agency in North Carolina. The coordinators were asked to complete and return the inquiry forms in a self-addressed, stamped envelope. Of the 145 coordinators, 81 responded for a 56% return. These 81 returned forms became the basis for data analysis.

In order to study the effect of school district size on other treatment criteria, the inquiry forms were ranked according to school district size via the 1977 final school district enrollments. The 81 subjects were distributed among 3 categories: small school districts, medium school districts, and large school districts. Enrollments from 662 to 4,381 constituted the small school district category, 4,573 to 8,050 the medium school district category and 8,619 to 57, 503 the large school district category. Thus, there were equal n's of 27 in the 3 experimental groups.

Development of the Research Instrument

Since factual information had to be gathered from the practicing coordinators of special education in the state of North Carolina, a mailed inquiry form seemed the most desirable data-gathering device. The initial step in development of the inquiry form was to consider the data needed and produce a format for data collection that was precise and well organized.

Considering the responses necessary, three methods of data collection were chosen. The first method, the Likert-type scale (Best, 1977), was used to provide responses regarding the extent of use of evaluative information available to decision makers prior to the placement of handicapped children in the public schools. The initial step in constructing the scale was to gather items which reflected required and optional evaluative information which could be used to make placement decisions, i.e., student achievement records, speech/language reports, intelligence quotients. These items were selected from the research of the literature, Functions of the Placement Committee in Special Education (1976), published by the National Association of Directors of Special Education, and federal and state laws governing handicapped children programs. A list of the selected items was then presented to ten special education teachers and five teaching aides in special education classrooms. These persons were individually asked to examine each item, critique each one for clarity, and to correlate with evaluative information used to make placement decisions. A final list of items was compiled from the fifteen responses. Following the Likert-type method, percentage responses were chosen to determine extent of use of each item. Next, a scale value relating to compliance was assigned each percentage response: (5) 100%-90%; (4) 89%-60%; (3) 59%-40%; (2) 39%-10%; and (1) less than 10%.

The second method chosen to gather data was the closed form type (Best, 1977). This method allowed the respondents to check items pertaining to educational program options and support services if they were available in their school district. The items for these questions were compiled from the North Carolina State Board of Education Rules Governing Programs and Services for Children with Special Needs (North Carolina State Department of Public Instruction, 1978).

The third method used for data collection required subjects to indicate by corresponding number the person(s) responsible for conducting the evaluations.

Once the format was completed, a pilot test was conducted. Twenty subjects were chosen to participate in the pilot test: lay persons, regular and special education teachers, administrators, and university personnel. A cover letter and the inquiry form were given to each participant. Each was asked to complete the inquiry form and to make suggestions to insure internal validity, concise and clear directions, logical format, accurate and easy procedure for response, and neatness in appearance.

After corrections were made, the inquiry form was printed in final form. The forms were coded utilizing school codes from the North Carolina Education Directory. A cover letter, a sample copy showing method of completion, the inquiry form,

and a self-addressed stamped envelope were mailed to the 145 special education coordinators in the state (see Appendix A).

Two weeks after the first mailing, reminder postcards were mailed to those subjects who had not yet returned their forms.

Statistical Design

The data collected were characterized as having a dual nature. Some of the data concerned the extent of use of information while other data concerned the availability of programs and services. Therefore, two designs were used.

For data concerning the extent of use of information, a two-factor mixed design with repeated measures on one factor (Bruning and Kintz, 1968) was used. The subjects' responses were classified into three groups on the basis of school district size, the first independent variable, and into five groups on the basis of handicapping condition, the second independent variable. This classification allowed an analysis of variance to be used to test the equality of means in the two groups of independent variables as to the extent of use of required and optional information. It also facilitated analysis of interaction of the two groups of independent variables on the extent of use of required and optional information.

Duncan's new multiple range test (Li, 1964) was then computed for the means of significant F ratios. This

calculation made it possible to test the difference between and among means to determine which specific means differed significantly from other means.

For the data dealing with program and service availability, a design for the analysis of variance of binomial data was used (Li, 1964). The availability of programs and services is a dichotomous characteristic, i.e., a program is available (success) or it is not available (failure). Data which have such a two-sided qualitative character are drawn from a binomial population. Since all binomial populations consist of the observations 0 and 1, an observation of an available program assumes a value of 1 (success) and the observation that a person is not available assumes a value of 0 (failure). The frequencies of these observations differentiate one population from another. As found in Li,

> The mean of a binomial population is equal to the relative frequency of successes and the variance is equal to the product of the relative frequencies of successes and failures. The mean is the only parameter of a binomial population (p. 455).

Therefore, the data for program and service availability were considered as a sample drawn from a binomial population and were qualified for analysis of variance. As in the previous design, the subjects' responses were again classified into the three categories of school district size and the five handicapping conditions.

Duncan's new multiple range test was again used to test for significant differences among means of significant *F* ratios.

CHAPTER IV

RESULTS

The first six hypotheses in this study were tested by analyzing data by means of the two factor mixed design with repeated measures on one factor (Bruning and Kintz, 1968). The design is a combination of a factorial design and the treatment-by-subjects design. The advantage of this design and its suitability to this research lay in its ability to assess the effects of the two independent variables, school district size and types of handicapping conditions, alone and in combination with one another, on the extent of use of required and optional information. This procedure also allowed examination of performance variation of each subject

TABLE 1

Analysis of Variance of the Effect of School District Size and Types of Handicapping Conditions on Extent of Use of Required Information

Source of Variation	Sums of Squares	d.f.	Mean Square	F
School size	3,577	2	1789	6.57*
Error	21,246	78	272.4	
Type of Handicap	20,240	4	5060	38.5 **
Size X Type	2,245	8	280.63	2.13***
Error	41,163	313	131.5	

*$p<.005$; **$p<.001$; ***$p<.05$

on extent of use of information across the five handicapping conditions.

As indicated by Table 1, null hypothesis one, that there would be no significant difference in school district size and extent of use of required information, was rejected at the .005 level of significance. Therefore, the data indicate that school district size does affect the extent of use of required information.

Null hypothesis two, concerning the effect of types of handicapping conditions and extent of use of required information, was rejected at the .001 level of significance. The variable, types of handicapping conditions, does affect extent of use of required information.

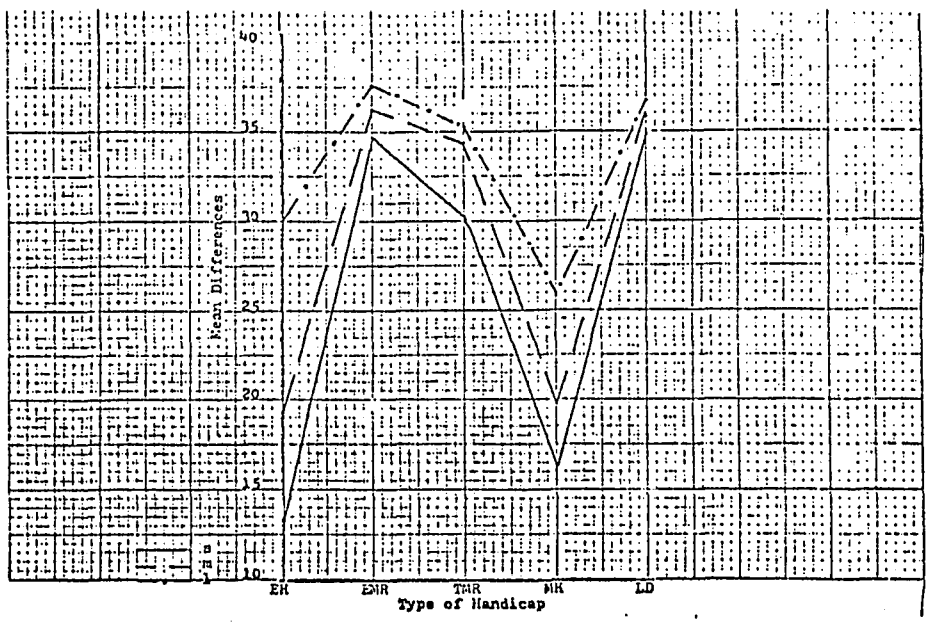
An F ratio of 2.13 was obtained for the interaction of school district size and types of handicapping conditions on extent of use of required information, null hypothesis three. This interaction was significant at the .05 level of significance. The data therefore support the alternate hypothesis that school district size and types of handicapping conditions do have a significant effect on extent of use of required information.

Duncan's new multiple range test (Tables 5, 6, and 7 presented in Appendix B) was performed for school district size, types of handicapping conditions and interaction effects. The significant mean differences for school district size and

types of handicapping conditions are presented graphically in Figure 2.

FIGURE 2

Effect of School District Size and Types of Handicapping Conditions on Extent of Use of Required Information



As presented in Table 2, an F ratio of 4.60 was obtained for school district size effect on extent of use of optional information. Null hypothesis four, that there would be no significant difference in school district size and extent of use of optional information, was rejected at the .025 level of significance. The alternate hypothesis that school district size and extent of use of optional information will differ significantly is accepted.

An F ratio of 111.2 was obtained for the effect of types of handicapping conditions. This ratio is significant at the .001 level of significance. Thus, the null hypothesis was rejected and the alternate hypothesis that types of handicapping conditions will differ significantly from extent of use of optional information is accepted.

Concerning the interaction of school district size and types of handicapping conditions on extent of use of optional information, null hypothesis six, an F ratio of 5.31 was obtained. This interaction is significant at the .001 level of significance. This finding supports the alternate hypothesis that school district size and types of handicapping conditions to have a significant effect on extent of use of optional information.

TABLE 2

Analysis of Variance of Effect of School Size and Type of Handicapping Conditions on Extent of Use of Optional Information

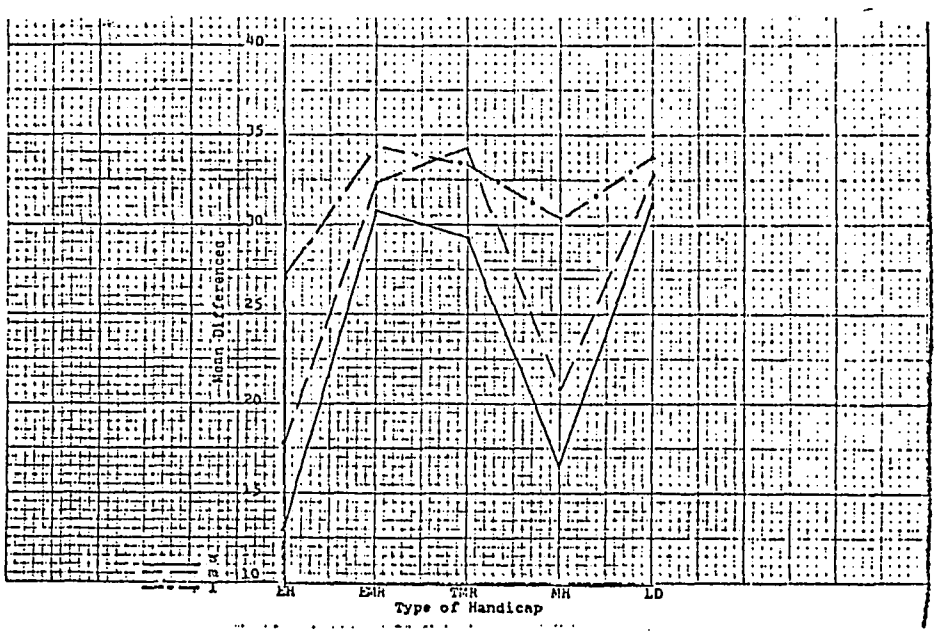
Source of Variation	Sums of Squares	d.f.	Mean Square	F
School Size	4,024	2	2,012	4.60*
Error	34,161	78	437	
Type of handicap	13,964	4	3,491	111.2 **
Size X Type	1,343	8	167	5.31***
Error	9,838	313	31.4	

*p<.025; **p<.001; ***p<.001

Since a significant difference was observed for school district size, types of handicapping conditions, and interaction effects, Duncan's new multiple range test was computed to determine significant mean differences (see Tables 8, 9, and 10 in Appendix C). The significant mean differences for interaction of the two variables on extent of use of optional information are illustrated in Figure 3.

FIGURE 3

Effect of School District Size and Types of Handicapping Conditions on Extent of Use of Optional Information



Null hypothesis seven, that there would be no significant difference in school district size and program option availability, was rejected at the .001 level of significance

as shown in Table 3.

Since an F ratio of 6.37 was obtained for the effect of types of handicapping conditions on program option availability, null hypothesis eight was also rejected at the .001 level of significance. The alternate hypothesis that types of handicapping conditions do have an effect on program option availability is accepted.

The interaction between school district size and types of handicapping conditions and their effect on program option availability, null hypothesis nine, was found to be non-significant with an F ratio of .80, $p>.05$.

TABLE 3

Analysis of Variance of Effect of School Size and Type of Handicapping Conditions on Program Option Availability

Source of Variation	Sums of Squares	d.f.	Mean Squares	F
School Size	54	2	27	7.16*
Type of Handicap	96	4	24	6.37**
Size x Type	24	8	3	.80***
Error	1,470	390	3.77	

*$p<.001$, **$p<.001$, ***$p<.05$

Duncan's new multiple range test was computed for significant mean differences (see Tables 11 and 12 in Appendix D).

Table 4 displays the analysis of data related to hypotheses 10, 11, and 12.

An F ratio of .38 was found for null hypothesis ten, that there would be no significant difference is school district size and support service availability. The data failed to reject this null hypothesis, $p>.05$.

TABLE 4

Analysis of Variance of Effect of School Size and Type of Handicapping Conditions on Support Service Availability

Source of Variation	Sums of Squares	d.f.	Mean Squares	F
School Size	25	2	12.5	.38*
Type of Handicap	226	4	56.5	1.70*
Size x Type	112	8	14	.42*
Error	12,995	390	33.3	

*$p>.05$

For null hypothesis eleven, that there would be no significant difference in types of handicapping conditions and support service availability, an F ratio of 1.70 was computed. The data also failed to reject this null hypothesis, $p>.05$.

Null hypothesis twelve, that there would be no significant difference in interaction between school district size and type of handicapping conditions and support service

availability, also failed to be rejected by the data, $p > .05$.

For the interest of the reader, individual item responses to the 81 questionnaires appear in the Appendices. Appendix E includes frequency data relating to required evaluative information. Appendix F includes frequency data relating to optional evaluative information. Appendix G includes a tally of individual responses to program option availability. Appendix H includes a tally of individual responses to support service availability.

These frequency data were not statistically analyzed as a part of this study. The statistical methods employed were designed to analyze group responses to the items in total rather than to investigate performance variations of individual schools among items in each category. This approach was taken in this research because within a particular category, e.g., required information, no item is considered more important or necessary than any other item.

CHAPTER V

DISCUSSION

Of the twelve null hypotheses presented in this study eight were refuted by statistical analysis of the findings. The data support the assumption that North Carolina local educational agency personnel are making placement decisions predicated on an inadequate information base. Furthermore, two variables confounding the task of decision making are school district size and type of handicapping condition.

School District Size

As noted earlier, school district size was identified in the literature as a factor which could hinder placement of a handicapped child into an appropriate educational program. Analysis of the data revealed that school district size in North Carolina does have a significant effect on extent of use of evaluative information and program option availability.

Small school districts in North Carolina tend not to use as great a variety or as many pieces of evaluative data as do medium and large school districts. Large school districts tend to comply to the greatest extent with rules set forth by the State Department of Public Instruction which govern the use of evaluative information. Even though this

study did not pinpoint specific reasons for the discrepancy in extent of use of evaluative information, some inferences may be drawn:

1) there may be an insufficient number of qualified examiners in school districts,

2) local Boards of Education may not have adopted policies adhering to the spirit and letter of the law,

3) local Boards of Education may have adopted minimal standards, and

4) local policies may have been adopted but not implemented by decision makers.

Program option availability is also affected by school district size. The data revealed that large school districts have a greater array of program options than do small or medium school districts. Again, school district size should not be a deterrent to offering appropriate programs which meet children's specific educational needs. Inferences which may be drawn to explain the unavailability of a program option continuum are:

1) large school districts may be more financially able to provide a greater array of program options,

2) large school districts may attract more qualified personnel to create program options within the organizational structure, and

3) large school districts may have greater incidence figures across handicapping conditions which would make option availability more feasible.

Analysis of the data failed to reject the hypothesis that the school district size would have a significant affect on

support service availability. One possible reason for this lack of discrepancy between different sized school districts is the fact that these services are available throughout North Carolina in community health agencies at no cost to the school districts. Another possible reason is that support services may not be viewed by decision makers as an integral part of the decision-making process regarding placement of exceptional children.

Types of Handicapping Conditions

Types of handicapping conditions was the other variable analyzed for effect on the extent of use of evaluative information, program option availability, and support service availability. The literature review pinpointed required and optional information necessary for evaluation of specific handicapping conditions. North Carolina laws do not specify categorical program options but require that options be available to children with any type of handicapping condition. Support services must be provided as needed to the individual child despite handicapping condition.

For the purposes of this study, required evaluative information common to all categories was analyzed for compliance to state rules governing information necessary for evaluation. The data showed that information used to place emotionally handicapped and multi-handicapped children is alike. Information to place educable mentally retarded,

trainable mentally retarded and learning disabled children is alike. The two groupings are significantly different from each other.

State rules suggest that other information which can be used for evaluative purposes is similar for multi-handicapped, educable mentally retarded and trainable mentally retarded children and that some similarity exists between that used for learning disabled and emotionally handicapped children. The data for optional information showed that optional evaluative information used for placement of emotionally handicapped children is different from all others. Optional information used for multi-handicapped children is different from all others. Optional information for placement of the educable mentally retarded, the trainable mentally retarded and the learning disabled is alike.

The following explanations are offered concerning this divergence from state rules governing evaluative information. Emotionally handicapped characteristics in children may necessitate in-depth psychological assessments conducted by qualified psychiatrists. Multi-handicapped children may necessitate a medically oriented evaluation requiring the services of professionals such as physicians, physical therapists, audiologists, and opthamologists. These types of evaluations may be more difficult to obtain due to the absence of such personnel in school systems. On the other

hand, the categories of educable mentally retarded, trainable mentally retarded, and learning disabled are more traditionally oriented and adhere to services performed by more available school psychologists.

The data analysis for program option availability showed that types of handicapping conditions can affect choices of educational environments. Program options for multi-handicapped, trainable mentally retarded, and emotionally handicapped are similar. Program options for trainable mentally retarded, emotionally handicapped, and learning disabled children are similar. Program options for learning disabled and educable mentally retarded children are similar. In other words, statistical analysis showed similarities across handicapping conditions but did not imply that all program options were available for all types of handicapping conditions.

Possible explanations for these similarities are: 1) traditional practices of placing handicapped children away from the more normal population, or 2) the newer concept of mainstreaming, whereby children with lesser degrees of handicapping conditions are placed in classes nearer to the normal school population. State rules require, however, that all options be available to meet the unique educational needs of any child.

The statistical findings on the effect of types of handicapping conditions on support service availability showed

no significant differences. The data did not show whether this is due to the availability of support services across handicapping conditions or due to unavailability of these support services.

Interaction of School District Size and Types of Handicapping Conditions

The interaction of school district size and types of handicapping conditions revealed significant differences in the extent of use of evaluative information. As indicated by Figures 2 and 3 the extent of use of information for emotionally handicapped and multi-handicapped is lower in small and medium sized school districts. Large school districts treat information for emotionally handicapped and multi-handicapped similarly to information used for the other three categories. Extent of use of information for educable mentally retarded, trainable mentally retarded, and learning disabled is treated in similar fashion across school district size. This observation may be the result of:

1) small and medium school districts not having the qualified personnel to provide necessary assessments for emotionally handicapped and multi-handicapped children,

2) incidence figures for emotionally handicapped and multi-handicapped being lower in small and medium school districts, and thus, having a lesser degree of professional impact,

3) educable mentally retarded, trainable mentally retarded, and learning disabled being more established categories in the school's organizational structures, and

4) large school districts having more resources for innovative planning for all types of handicapping conditions.

There was no significant interaction between the two independent variables, school district size and types of handicapping conditions, and program option or support services availability. Probably, no significant difference was indicated by the data, because not all schools serve the same array of handicaps.

Total Frequency Responses to Each Individual Item

Inferences cannot be drawn from the frequency data relating to specific items included on the questionnaire since these data were not addressed by the method of statistical analysis used in this research design.

The appendices provide an opportunity for readers to examine the frequency data. The readers may draw their own inferences through inductive reasoning as to which of the specific pieces of evaluative information would seem to be used more frequently to determine placement of handicapped children in this sampling of North Carolina public schools.

As an example, a reader may infer that the data showed a tendency for parent permission for evaluation (see Table 13) to be used more often in placement decisions in this sample than intelligence quotient. Again, it must be emphasized that making such inferences is at the reader's own risk since the data were not statistically analyzed.

Nevertheless, the data in this study do indicate that the next logical step in research regarding the placement process would be to design a study which would allow for the valid and reliable identification of the specific pieces of evaluative information used in the placement of handicapped children in the North Carolina public schools.

Summary and Recommendations

The implications drawn from this study indicate a pressing need for a more comprehensive investigation of decision-making practices concerning placement of handicapped children in the North Carolina public schools.

The major conclusion of this study is that, from the sample drawn, North Carolina public school personnel are making placement decisions founded upon an inadequate information base; therefore, the provision of instructional programs may not meet the unique educational needs of handicapped children. The literature review discussed the importance of an adequate information base during the decision-making process (Vroom and Yetton, 1973; Iannaccone, 1964; Kast and Rosenzweig, 1974, Brubaker and Nelson, 1974). It also led to an operational definition of an adequate information base which should include evaluative information, program option availability, and support service availability (Department of Health, Education, and Welfare, 1977; North Carolina State Department of Public Instruction, 1978). The data of this study reveal, however,

that there are significant discrepancies in the use of evaluative information, program options, and support services across school district size and type of handicapping conditions. Therefore, one can infer that decisions are being made regarding placement of handicapped children in the public schools which are predicated on an inadequate information base; this leads to inappropriate schooling for handicapped children in North Carolina.

The following recommendations are made for further study:

1) further study and investigation needs to be conducted on the effect of school district size to the extent of use of evaluative information, program option availability, and support service availability,

2) further research needs to explore the impact of the type of handicapping conditions on the extent of use of evaluative information, program option availability, and support service availability,

3) further research needs to identify specific pieces of information used in the placement process,

4) further investigation needs to assess disparities in services which exist among small, medium, and large school districts (e.g., finances, qualified personnel), and

5) there exists a need to examine the use of an adequate information base during the decision-making process leading to the placement of handicapped children in the North Carolina public schools.

BIBLIOGRAPHY

Books and Articles

Best, J. W. Research in education (3rd ed.). Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1977.

Brubaker, D. L., & Nelson, R. H., Jr. Creative survival in educational bureaucracies. Berkeley, California: McCutchan Publishing Corporation, 1974.

Bruning, J. L., & Kintz, B. L. Computational handbook of statistics. Glenview, Ill.: Scott, Foresman and Company, 1968.

Cruickshank, W., & Johnson, G. O. Education of exceptional children and youth. Englewood Cliffs, N. J.: Prentice Hall, Inc., 1958.

Deno, E. Strategies for Improvement of Educational Opportunities for Handicapped Children: Suggestions for Exploitation of EPDA Potential. In M. C. Reynolds and Malcolm Davis (Eds.), Exceptional Children in Regular Classrooms. Minneapolis: University of Minnesota, 1970.

Department of Health, Education, and Welfare. Office of Education. Federal Register. Washington, D. C., 1977.

Department of Health, Education, and Welfare. President's Committee on Mental Retardation. Compendium of Law Suits Establishing the Legal Rights of Mentally Retarded Citizens. (DHEW Publication No. (OHD) 75-21007). Washington, D. C., 1974.

Dill, W. R. Decision-making. In D. E. Griffiths (Ed.), Behabioral Science and Educational Administration. Chicago: The University of Chicago Press, 1964.

Dunn, L. M. Special education for the mildly retarded: is much of it justifiable?, Exceptional children, 1968, 35, 5 - 22.

Dunn, R., & Dunn, K. Learning styles as a criterion for placement in alternative programs. Phi Delta Kappan, 1974.

Goldstein, H., Moss, J. W., & Jordan, L. The efficacy of special class training on the development of mentally retarded children. (U. S. Office of Education Cooperative Research Program, Project #619). Urbana, Ill.: Institute for Research on Exceptional Children, 1965.

Hobbs, Nicholas. The futures of children. San Francisco: Jossey-Bass, 1975. (a)

Hobbs, Nicholas (Ed.). Issues in the classification of children (Vol. 2.). San Francisco: Jossey-Bass, 1975. (b)

House I 1 DRH 6088. Raleigh, N. C.: General Assembly of North Carolina, 1977.

Iannaccone, L. An approach to the informal organization of the school. In D. E. Griffiths (Ed.), Behavioral science and educational administration. Chicago: The University of Chicago Press, 1964.

Jones, R. L. Labels and Stigma in Special Education. Exceptional Children, 1972, 38, 553 - 564.

Kast, F. E., & Rosenzweig, J. E. Organization management. New York: McGraw-Hill, 1974.

Kimbrough, R. B., & Nunnery, M. Y. Educational administration. New York: MacMillan, 1976.

Li, Jerome C. R. Statistical Inference I. Ann Arbor, Michigan: Edward Brothers, Inc., 1966.

Martinelli, J. J. Financing the education of exceptional children. In F. J. Weintraub, A. Abeson, J. Ballard, & M. L. LaVor (Eds.). Public Policy and the Education of Exceptional Children. Reston, Va.: The Council for Exceptional Children, 1976.

Mercer, Jane. Psychological assessment and rights of children. In N. Hobbs (Ed.). Issues in the Classification of Children (Vol. 1). San Francisco: Jossey-Bass, 1975.

National Association of State Directors of Special Education. Functions of the Placement Committee in Special Education. Washington, D. C.: Author, 1976.

North Carolina State Department of Public Instruction. Equal Educational Opportunities Planning. Raleigh, N. C.: Author, 1977.

Pappanikow, A. J., Rouchank, T. T., & Riech, M. L. Continuity and unity in special education. Phi Delta Kappan. 1974, 55, 546-548.

Reynolds, M. Categories and variables in special education. In M. C. Reynolds & Malcolm Davis (Ed.), Exceptional Children in Regular Classrooms. Minneapolis: University of Minnesota, 1968.

Reynolds, M. Policy Statement: Call for Response. Exceptional children, 1971, 37, 421 - 433.

Rosenthal, R., & Jacobson, L. Pygmalion in the classroom. New York: Holt, Rinehart and Winston, 1968.

Shull, F. A., Jr., Delbecq, A. L., & Cummings, L. L. Organizational decision making. New York: McGraw-Hill, 1970.

Solzhenitsyn, A. Cancer Ward. New York: Bantam, 1969.

Vroom, V. H., & Yetton, P. W. Leadership and decision-making. Pittsburg: University of Pittsburg Press, 1973.

Weintraub, F. J., & Abeson, A. R. New education policies for the handicapped. In F. J. Weintraub, A. Abeson, J. Ballard, & M. LaVor (Eds.), Public policy and the education of exceptional children. Reston, Va.: The Council for Exceptional Children, 1976.

Weintraub, F. J., Abeson, A., Ballard, Jr., & LaVor, M. L. Public Policy and the Education of Exceptional Children. Reston, Va.: The Council for Exceptional Children, 1976.

Weintraub, F. J., Abeson, A. R., & Braddock, D. L. State Law and Education of Handicapped Children: Issues and Recommendations. Reston, Va.: The Council for Exceptional Children, 1975.

Legal Citations

Arreola et al v. Board of Education. 160 577 (Santa Ana, California, 1968).

Case v. California. 4 Civil 13127 (Court of Appeals, Fourth District, California, July 16, 1974).

Colorado Association for Retarded Children v. Colorado. C.A. No. C-4620 (D. Colo., filed Dec. 22, 1972).

Covarrubias v. San Diego Unified School District. C.A. No. 70-394-T (S.D. Cal., filed Dec. 1, 1970).

Diana v. State Board of Education. C.A. No. C-70 37 RFP (N.D. Cal., Feb. 3, 1970).

Hobsen v. Hansen. 269 F. Supp. 401 (D.D.C. 1967).

Larry P. v. Riles. 343 F. Supp. 1306 (N.D. Cal., 1972).

Lebanks v. Spears. 60 F.R.D. 135 (E.D. La., 1973).

Mills v. Board of Education of District of Columbia, 348 F. Supp. 866, 968, 857 (D.D.C. 1972).

Pennsylvania Association of Retarded Children v. Commonwealth, 334 F. Supp. 1257 (E.D. Pa.), 1971.

Rainey v. Tennessee Department of Education, No. A-3100 (Chancery Court of Davidson County, Tennessee, July 29, 1974).

Spangler v. Pasadena City Board of Education. 311 F. Supp. 501 (D.C. Cal., 1970).

Stewart v. Phillips. C.A. No. 70-1199-F (D. Mass., filed Sept. 14, 1970).

APPENDICES

APPENDIX A

March 2, 1978

Dear Coordinator,

As a doctoral candidate at the University of North Carolina at Greensboro I am engaging in research on the information base used to place handicapped students in the North Carolina public schools. This letter is an invitation for you to participate in this project.

Your part in the study, to complete the enclosed inquiry form, should require no more than twenty minutes of your time. The directions for completion are explained with each item. YOUR REPORT WILL BE HELD IN STRICT CONFIDENCE.

If you are interested in the results of the study please indicate yes in the upper right hand corner of the first page of the inquiry form. I will be pleased to share the findings with you when the data have been compiled.

May I thank you at this time for your kind cooperation with this research project. Please complete the inquiry form and return it to me in the enclosed, stamped, self-addressed envelope by March 15.

Sincerely,

Carolyn J. Worley

The purpose of this inquiry form is to determine the information and resources used to place children with special needs in North Carolina public schools.

The directions for completing the inquiry form are explained above each item.

I. Please check the educational programs you have available in your system: ✓ emotionally handicapped; ✓ educable mentally retarded; ✓ trainable mentally retarded; ✓ multi-handicapped; ✓ learning disabled.

II. Please circle in columns B, D, F, H, J the extent to which your school system uses the following information in making educational placement decisions for the categories of exceptionality listed below:

KEY for extent of use: (5) 100%-90%; (4) 89%-60%; (3) 59%-40%; (2) 39%-10%; (1) less than 10%

III. In columns A, C, E, G, I please place the number which indicates the person responsible for conducting the evaluation.

KEY: (1) school psychologist
(2) physician
(3) speech therapist
(4) audiologist
(5) school nurse
(6) counselor
(7) regular classroom teacher
(8) special education teacher
(9) psychiatrist
(10) social worker
(11) physical/occupational therapist
(12) parent
(13) other

SAMPLE COPY

INFORMATION	A	B Emotionally Handicapped	C	D Educable Mentally Retarded	E	F Trainable Mentally Retarded	G	H Multi-Handicapped	I	J Learning Disabled
		Extent of Use		Extent of Use		Extent of Use		Extent of Use		Extent of Use
A. Initial Referral	6	(5) 4 3 2 1	6	(5) 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
B. Behavioral Observation	7	(5) 4 3 2 1	7	(5) 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
C. Parent Permission for Evaluation	6	(5) 4 3 2 1	6	(5) 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
D. Parent Permission for Services	6	(5) 4 3 2 1	6	(5) 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
E. Student Cumulative Records	6	5 (4) 3 2 1	6	(5) 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
F. Student Achievement Records	6	5 (4) 3 2 1	6	(5) 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
G. Description of educational programs/services needed	13	5 (4) 3 2 1	13	(5) 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
H. Intelligence Quotient	1	(5) 4 3 2 1	1	(5) 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
I. Adaptive Behavior measure	1	(5) 4 3 2 1	8	5 4 (3) 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
J. Psycho-motor measure	1	5 4 (3) 2 1	1	5 4 3 (2) 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
K. Medical reports	2	5 4 3 (2) 1	2	5 4 3 (2) 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
L. Vision reports	5	5 4 3 2 (1)	5	5 4 3 (2) 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
M. Hearing reports	5	5 4 3 2 (1)	5	5 4 3 (2) 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
N. Speech/Language reports	3	5 4 3 2 (1)	3	5 (4) 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
O. Self/help measure	13	5 4 3 2 (1)	13	5 4 3 2 (1)		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
P. Personality assessment	1	5 (4) 3 2 1	13	5 4 3 2 (1)		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
Q. Description of classroom environment	8	5 4 (3) 2 1	8	5 4 3 (2) 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
R. Family information	6	5 (4) 3 2 1	6	5 4 3 (2) 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1

The purpose of this inquiry form is to determine the information and resources used to place children with special needs in North Carolina public schools.

The directions for completing the inquiry form are explained above each item.

I. Please check the educational programs you have available in your system: ____emotionally handicapped; ____educable mentally retarded; ____*trainable mentally retarded*; ____*multi-handicapped*; ____*learning disabled*.

II. Please circle in columns B, D, F, H, J the extent to which your school system uses the following information in making educational placement decisions for the categories of exceptionality listed below:

KEY for extent of use: (5) 100%-90%; (4) 89%-60%; (3) 59%-40%; (2) 39%-10%; (1) less than 10%

III. In columns A, C, E, G, I please place the number which indicates the person responsible for conducting the evaluation.

KEY: (1) *school psychologist*
(2) physician
(3) speech therapist
(4) audiologist
(5) *school nurse*
(6) counselor
(7) regular classroom teacher
(8) special education teacher
(9) psychiatrist
(10) social worker
(11) physical/occupational therapist
(12) parent
(13) other

INFORMATION CATEGORIES

	A	B	C	D	E	F	G	H	I	J
		Emotionally Handicapped		Educable Mentally Retarded		Trainable Mentally Retarded		Multi-Handicapped		Learning Disabled
		Extent of Use		Extent of Use		Extent of Use		Extent of Use		Extent of Use
A. Initial Referral.		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
B. Behavioral Observation.		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
C. Parent Permission for Evaluation		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
D. Parent Permission for Services.		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
E. Student Cumulative Records. . .		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
F. Student Achievement Records . .		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
G. Description of educational programs/services needed. . .		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
H. Intelligence Quotient		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
I. Adaptive Behavior measure . . .		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
J. Psycho-motor measure.		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
K. Medical reports		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
L. Vision reports.		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
M. Hearing reports		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
N. Speech/Language reports		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
O. Self/help measure		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
P. Personality assessment.		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
Q. Description of classroom environment		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1
R. Family information.		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1		5 4 3 2 1

IV. Please place a checkmark beside each educational program available in your school system for each category of exceptionality listed below:

ABBREVIATIONS: EH - emotionally handicapped; EMR - educable mentally retarded; TMR - trainable mentally retarded; MH - multi-handicapped; LD - learning disabled

	EH	EMR	TMR	MH	LD
A. regular classroom.					
B. regular classroom with support services. . . .					
C. resource room.					
D. full-time special class.					
E. special day school					
F. hospitalized/homebound					
G. residential.					

V. Please place a checkmark beside the support services available to the educational program for each category of exceptionality listed below:

ABBREVIATIONS: See number IV.

	EH	EMR	TMR	MH	LD
A. psychological services					
B. counseling services.					
C. parent training/counseling					
D. medical assistance					
E. psychiatric therapy.					
F. audiological services.					
G. speech/language services					
H. remedial reading program					
I. physical therapy					
J. occupational therapy					
K. communication training for deaf/blind.					
L. diagnostic/prescriptive teachers					
M. physical education/recreation.					

Thank You.

APPENDIX B

TABLE 5

Duncan's New Multiple Range Test Applied to the Mean Differences Between School Size and Extent of Use of Required Information

Means	(1) s 129	(2) m 145	(3) l 166	(4) Shortest Significant Ranges
s 129		16	37	$R_2 = 7.14$
m 145			21	$R_3 = 7.38$
l 166				

TABLE 6

Duncan's New Multiple Range Test Applied to the Mean Differences Between Type of Handicapping Condition and the Extent of Use of Required Information

	(1) EH	(2) MH	(3) TMR	(4) EMR	(5) LD	(6) Shortest Significant Ranges
Means	20.7*	20.9*	33	36	36	
EH	20.7*	.2	12	15	15	R_2 = 6.23
MH	20.9*		12	15	15	R_3 = 6.44
TMR	33			3	3	R_4 = 6.58
EMR	36				0	R_5 = 6.69
LD	36					

EH	MH	TMR	EMR	LD

*Numbers rounded off to whole numbers

TABLE 7

Duncan's New Multiple Range Test Applied to the Differences Between School Size and Type of Handicapping Condition and Extent of Use of Required Information

		(1) EH_s	(2) MH_s	(3) EH_m	(4) MH_m	(5) MH_l	(6) EH_l	(7) TMR_s	(8) TMR_m	(9) EMR_s	(10) LD_s	(11) TMR_l	(12) LD_m	(13) EMR_m	(14) LD_l	(15) EMR_l	(16) Shortest Significant Ranges
	Means	13.22	16.22	19.37	19.77	25.96	30.14	30.22	34.44	34.70	34.85	35.25	35.85	36.11	36.62	37.55	
EH_s	13.22		3	6.15	6.55	12.74	16.92	17	21.22	21.48	21.63	22.03	22.63	22.89	23.40	24.33	R_2 = 8.05
MH_s	16.22			3.15	3.55	9.74	13.92	14	18.22	18.48	18.63	19.03	19.63	19.89	20.40	21.33	R_3 = 8.39
EH_m	19.37				.40	6.19	10.77	10.85	15.07	15.33	15.48	15.88	16.48	16.74	17.25	18.18	R_4 = 8.62
MH_m	19.77					5.79	10.37	10.45	14.67	14.93	15.08	15.48	16.04	16.34	16.85	16.78	R_5 = 8.79
MH_l	25.96						4.18	4.26	8.48	8.74	8.89	9.29	9.89	10.15	10.66	11.59	R_6 = 8.93
EH_l	30.14							.08	4.30	4.56	4.71	5.11	5.71	5.97	6.48	7.41	R_7 = 9.04
MR_s	30.22								4.22	4.48	4.63	5.03	5.63	5.89	6.40	7.33	R_8 = 9.14
MR_m	34.44									.26	.41	.81	1.41	1.67	2.18	3.11	R_9 = 9.22
MR_s	34.70										.15	.55	1.15	1.41	1.92	2.85	R_{10} = 9.29
LD_s	34.85											.40	1	1.26	1.77	2.70	R_{11} = 9.36
MR_l	35.25												.60	.86	1.37	2.30	R_{12} = 9.42
LD_m	35.85													.26	.77	1.70	R_{13} = 9.47
MR_m	36.11														.51	1.44	R_{14} = 9.52
LD_l	36.62															.93	R_{15} = 9.56
		EH_s	MH_s	EH_m	MH_m	MH_l	EH_l	TMR_s	TMR_m	EMR_s	LD_s	TMR_l	LD_m	EMR_m	LD_l	EMR_l	

APPENDIX C

TABLE 8

Duncan's New Multiple Range Test Applied to the Mean Differences Between School Size and Extent of Use of Optional Information

	(1) s	(2) m	(3) l	(4) Shortest Significant Ranges
Means	120	138	159	
s 120		18	39	$R_2 = 15.6$
m 138			21	$R_3 = 16.3$
l 159				

TABLE 9

Duncan's New Multiple Range Test Applied to the Mean Differences Between Type of Handicapping Condition and the Extent of Use of Optional Information

		(1) EH	(2) MH	(3) TMR	(4) EMR	(5) LD	(6) Shortest Significant Ranges
Means		19	23	32	32	32	
EH	19		4	13	13	13	$R_2 = 2.33$
MH	23			9	9	9	$R_3 = 2.43$
TMR	32				0	0	$R_4 = 2.49$
EMR	32					0	$R_5 = 2.54$
LD	32						
		EH	MH	TMR	EMR	LD	

TABLE 10

Duncan's New Multiple Range Test Applied to the Difference Between School Size and Types of Handicapping Condition and Extent of Use of Optional Information

		(1) EH_s	(2) MH_s	(3) EH_m	(4) MH_m	(5) EH_l	(6) TMR_s	(7) MH_l	(8) EMR_s	(9) LD_s	(10) EMR_s	(11) LD_m	(12) TMR_l	(13) LD_l	(14) TMR_m	(15) EMR_l	(16) Shortest Significant Ranges
	Means	13.00	16.55	17.81	20.96	27.22	29.14	30.44	20.66	31.11	32.22	32.66	33.48	33.66	34.29	34.44	
EH_s	13.00		3.55	4.81	7.96	14.22	16.14	17.44	17.66	18.11	19.22	19.66	20.48	20.66	21.29	21.44	R_2 = 4.26
MH_s	16.55			1.26	4.41	10.67	12.59	13.89	14.11	14.56	15.67	16.11	16.93	17.11	17.74	17.89	R_3 = 4.10
EH_m	17.81				3.15	9.41	11.33	12.63	12.85	13.30	14.41	14.85	15.67	15.85	16.48	16.63	R_4 = 4.21
MH_m	20.96					6.26	8.18	9.48	9.70	10.15	11.26	11.70	12.52	12.70	13.33	13.48	R_5 = 4.30
EH_l	27.22						1.92	3.22	3.44	3.89	5	5.44	6.26	6.44	7.07	7.22	R_6 = 4.36
TMR_s	29.14							1.30	1.52	1.97	3.08	3.52	4.34	4.52	5.15	5.30	R_7 = 4.42
MH_l	30.44								.22	.67	1.78	2.22	3.04	3.22	3.85	4	R_8 = 4.47
EMR_s	30.66									.45	1.56	2.	2.82	3	3.63	3.78	R_9 = 4.51
LD_s	31.11										1.11	1.55	2.37	2.55	3.18	3.33	R_{10} = 4.54
EMR_s	32.22											.44	1.26	1.44	2.07	2.22	R_{11} = 4.57
LD_m	32.66												.82	1	1.63	1.78	R_{12} = 4.60
TMR_l	33.48													.18	.81	.96	R_{13} = 4.63
LD_l	33.66														.63	.78	R_{14} = 4.65
TMR_m	34.29															.15	R_{15} = 4.67
		EH_s	MH_s	EH_m	MH_m	EH_l	TMR_s	MH_l	EMR_s	LD_s	EMR_s	LD_m	TMR_l	LD_l	TMR_m	EMR_l	

APPENDIX D

TABLE 11

Duncan's New Multiple Range Test Applied to the Mean Differences Between School Size and Program Option Availability

	(1) s	(2) m	(3) l	(4) Shortest Significant Ranges
Means	1.69	1.83	2.53	
s 1.69		.14	.84	R_2 = .66
m 1.83			.70	R_3 = .68
l 2.53				

s	m	l

TABLE 12

Duncan's New Multiple Range Test Applied to the Mean Differences Between Type of Handicapping Condition and Program Option Availability

	(1) MH	(2) TMR	(3) ED	(4) LD	(5) EMR	(6) Shortest Significant Ranges
Means	1.41	1.69	1.81	2.46	2.70	
MH 1.41		.28	.40	1.05	1.29	R_2 = .84
TMR 1.69			.12	.77	1.01	R_3 = .87
ED 1.81				.65	.89	R_4 = .90
LD 2.46					.25	R_5 = .91
EMR 2.70						

MH TMR ED LD EMR

APPENDIX E

The key for the following Tables is as follows;

(5) 100%-90%
(4) 89%-60%
(3) 59%-40%
(2) 39%-10%
(1) less than 10%

s - small school districts

m - medium school districts

l - large school districts

TABLE 13

Individual Item Responses for Required Evaluative Information Relating to EH Programs

	5			4			3			2			1		
	s	m	l	s	m	l	s	m	l	s	m	l	s	m	l
A. initial referral	10	14	21	1	0	0	0	1	1	0	0	0	16	12	5
B. behavioral observation	10	12	18	0	1	4	0	1	0	0	0	0	17	13	5
C. parent permission for evaluation	11	14	22	0	0	0	0	0	0	0	1	0	16	12	5
D. parent permission for services	11	14	22	0	0	0	0	0	0	0	1	0	16	12	5
E. student cumulative records	6	10	15	2	4	3	2	0	2	0	0	1	17	13	6
F. student achievement records	6	11	13	4	2	4	0	0	3	0	0	0	17	14	7
G. description of educational programs/services needed	8	9	15	2	2	5	0	0	2	0	0	0	17	16	5
H. intelligence quotient	7	8	15	2	1	3	1	4	0	0	1	0	17	13	9

TABLE 14

Individual Item Responses for Required Evaluative Information Relating to EMR Programs

	5			4			3			2			1		
	s	m	l	s	m	l	s	m	l	s	m	l	s	m	l
A. initial referral	23	23	27	0	2	0	1	2	0	0	0	0	3	0	0
B. behavioral observation	22	17	22	2	5	3	0	3	1	0	0	0	3	2	1
C. parent permission for evaluation	25	25	24	0	0	2	0	2	1	0	0	0	2	0	0
D. parent permission for services	25	25	27	0	0	0	0	2	0	0	0	0	2	0	0
E. student cumulative records	20	16	20	2	7	3	1	2	4	1	1	0	3	1	0
F. student achievement records	19	18	19	4	4	5	1	1	3	1	2	0	2	2	0
G. description of educational programs/services needed	21	17	21	1	6	5	1	1	1	0	0	0	4	3	0
H. intelligence quotient	23	24	22	2	0	3	0	3	0	0	0	0	2	0	2

TABLE 15

Individual Item Responses for Required Evaluative Information Relating to TMR Programs

	5			4			3			2			1		
	s	m	l	s	m	l	s	m	l	s	m	l	s	m	l
A. initial referral	20	20	24	1	4	1	1	2	0	0	0	0	5	1	2
B. behavioral observation	20	19	23	1	4	1	0	0	0	0	0	0	6	3	3
C. parent permission for evaluation	22	24	24	0	0	1	0	2	0	0	0	0	5	1	2
D. parent permission for services	22	23	24	0	1	0	0	1	0	1	1	0	4	1	3
E. student cumulative records	17	15	16	2	5	4	0	3	1	0	1	1	8	3	5
F. student achievement records	16	18	16	3	2	4	0	3	1	0	1	1	8	3	5
G. description of educational programs/services needed	18	16	17	1	5	4	2	2	0	0	0	3	6	4	3
H. intelligence quotient	21	24	21	1	1	3	0	1	0	0	0	0	5	1	3

TABLE 16

Individual Item Responses for Required Evaluative Information Relating to MH Programs

	5			4			3			2			1		
	s	m	l	s	m	l	s	m	l	s	m	l	s	m	l
A. initial referral.	12	11	19	0	2	0	0	2	0	0	0	0	15	17	8
B. behavioral observation.	14	10	16	0	3	2	0	2	0	0	0	1	13	17	8
C. parent permission for evaluation. . .	14	14	19	0	0	0	0	1	0	0	1	0	13	11	8
D. parent permission for services. . . .	14	14	19	0	0	0	0	1	0	0	1	0	13	11	8
E. student cumulative records.	10	8	9	1	2	3	1	3	2	0	1	2	15	13	11
F. student achievement records	10	11	10	0	1	4	0	2	1	0	1	1	17	12	11
G. description of educational programs/services needed.	13	9	14	2	3	3	0	1	2	0	0	0	12	14	8
H. intelligence quotient	13	9	16	2	2	2	0	2	1	0	3	0	12	11	8

TABLE 17

Individual Item Responses for Required Evaluative Information Relating to LD Programs

	5			4			3			2			1		
	s	m	l	s	m	l	s	m	l	s	m	l	s	m	l
A. initial referral	23	22	26	0	3	0	1	2	0	0	0	0	3	0	1
B. behavioral observation	22	17	20	1	5	3	1	3	1	1	0	0	2	2	3
C. parent permission for evaluation	25	24	26	0	0	0	0	3	0	0	0	0	2	0	1
D. parent permission for services	25	24	25	0	1	1	0	2	0	0	0	0	2	0	1
E. student cumulative records	21	16	19	3	7	3	1	2	3	0	1	0	2	1	2
F. student achievement records	20	18	19	5	4	4	0	1	2	0	2	0	2	2	2
G. description of educational programs/services needed	21	17	20	2	5	5	2	2	1	0	0	0	2	3	1
H. intelligence quotient	20	20	20	4	2	3	0	5	3	0	0	0	3	0	1

APPENDIX F

The key for the following Tables is as follows:

(5) 100%-90%
(4) 89%-60%
(3) 59%-40%
(2) 39%-10%
(1) less than 10%

s - small school districts

m - medium school districts

l - large school districts

TABLE 18

Individual Item Responses for Optional Evaluative Information Relating to EH Programs

	5			4			3			2			1		
	s	m	l	s	m	l	s	m	l	s	m	l	s	m	l
I. adaptive behavior measure.	8	7	16	0	2	3	2	1	2	0	1	0	17	16	6
J. psycho-motor measure	5	3	11	0	4	4	4	3	6	1	2	0	17	15	6
K. medical reports.	5	5	7	1	1	6	1	5	3	3	1	3	17	15	8
L. vision reports	5	6	7	2	3	2	1	1	4	0	2	4	19	15	10
M. hearing reports.	5	6	11	3	3	1	0	0	4	0	3	2	19	15	9
N. speech/language reports.	6	3	11	2	2	2	0	4	1	0	1	3	19	17	11
O. self/help measure.	2	2	5	3	3	4	2	1	3	0	0	3	20	21	12
P. personality assessment	5	10	10	4	1	4	2	1	3	0	0	1	16	15	9
Q. description of classroom environment.	5	7	9	1	2	1	2	0	5	0	0	3	19	18	9
R. family information	9	6	11	1	3	3	0	3	3	0	1	1	17	14	9

TABLE 19

Individual Item Responses for Optional Evaluative Information Relating to EMR Programs

	5			4			3			2			1		
	s	m	l	s	m	l	s	m	l	s	m	l	s	m	l
I. adaptive behavior measure	12	14	18	4	6	4	5	1	2	0	3	2	6	3	1
J. psycho-motor measure	14	12	13	2	5	8	2	3	5	3	3	0	6	4	1
K. medical reports	8	7	9	5	7	6	5	4	3	2	3	6	7	8	3
L. vision reports	16	13	11	4	5	3	2	3	5	1	3	2	4	3	6
M. hearing reports	18	14	14	2	7	3	1	0	5	2	4	2	4	2	3
N. speech/language reports	15	8	13	4	5	4	2	4	2	0	7	4	6	3	4
O. self/help measure	5	8	6	3	5	7	3	0	4	2	4	3	14	10	7
P. personality assessment	3	2	4	3	3	4	2	6	4	5	3	2	14	13	13
Q. description of classroom environment	6	7	6	3	5	3	5	5	12	2	0	2	11	10	4
R. family information	11	6	7	6	8	7	3	6	6	2	3	1	5	4	6

TABLE 20

Individual Item Responses for Optional Evaluative Information Relating to TMR Programs

	5			4			3			2			1		
	s	m	l	s	m	l	s	m	l	s	m	l	s	m	l
I. adaptive behavior measure.	15	18	17	2	2	5	4	2	2	0	2	0	6	3	3
J. psycho-motor measure	13	15	15	4	5	5	0	0	3	1	3	0	9	4	4
K. medical reports.	15	11	14	2	5	7	0	4	0	2	3	4	8	4	2
L. vision reports	16	14	11	3	4	4	0	3	2	1	3	2	7	3	8
M. hearing reports.	16	15	11	2	6	6	0	1	3	1	3	3	8	2	4
N. speech/language reports.	16	12	12	2	4	2	0	5	3	1	3	4	8	3	6
O. self/help measure.	7	12	9	3	5	9	2	3	3	1	1	2	14	6	4
P. personality assessment	4	3	3	3	2	5	2	6	2	3	5	2	15	11	15
Q. description of classroom environment.	7	6	5	1	6	4	4	3	7	0	1	4	15	11	7
R. family information	14	8	10	2	4	5	1	8	3	0	1	2	10	6	7

TABLE 21

Individual Item Responses for Optional Evaluative Information Relating to MH Programs

	5			4			3			2			1		
	s	m	l	s	m	l	s	m	l	s	m	l	s	m	l
I. adaptive behavior measure	8	10	14	2	2	2	2	2	3	0	1	0	15	12	8
J. psycho-motor measure	8	7	15	1	4	1	0	1	3	2	2	1	16	13	7
K. medical reports	10	10	16	0	1	1	0	1	1	1	1	2	16	14	7
L. vision reports	9	8	13	0	2	2	1	2	2	1	3	1	16	12	9
M. hearing reports	9	10	13	0	2	3	0	2	2	1	2	1	17	11	8
N. speech/language reports	8	6	11	0	4	2	0	2	4	2	3	3	17	12	7
O. self/help measure	6	7	10	0	5	5	1	0	2	1	1	2	19	14	8
P. personality assessment	4	0	4	1	2	2	3	4	2	0	3	0	19	18	19
Q. description of classroom environment	5	4	6	0	5	4	3	1	3	0	1	3	19	16	11
R. family information	10	7	9	0	3	3	0	2	3	0	1	1	17	14	11

TABLE 22

Individual Item Responses for Optional Evaluative Information Relating to LD Programs

	5			4			3			2			1		
	s	m	l	s	m	l	s	m	l	s	m	l	s	m	l
I. adaptive behavior measure	14	8	14	2	7	5	4	4	3	1	2	2	6	6	3
J. psycho-motor measure	15	16	13	2	3	8	3	2	5	2	2	0	5	4	1
K. medical reports	12	9	8	2	3	6	5	5	5	0	4	4	8	6	4
L. vision reports	18	14	11	3	6	3	3	2	5	0	3	2	3	2	6
M. hearing reports	18	15	12	5	6	7	0	1	3	0	3	1	4	2	4
N. speech/language reports	17	9	13	4	7	5	0	3	3	0	4	1	6	4	5
O. self/help measure	5	4	3	3	5	5	3	4	8	2	3	2	14	11	9
P. personality assessment	3	2	4	7	3	1	4	6	7	2	3	3	11	13	12
Q. description of classroom environment	8	9	7	4	7	5	5	3	9	0	0	2	10	8	4
R. family information	11	8	6	8	7	6	2	5	6	1	3	3	5	4	6

APPENDIX G

TABLE 23

Individual Item Responses for Program Option Availability

	EH			EMR			TMR			MH			LD		
	s	m	l	s	m	l	s	m	l	s	m	l	s	m	l
A. regular classroom	5	11	12	9	10	13	1	1	2	0	2	4	11	12	11
B. regular classroom/support services. .	8	8	20	18	16	18	3	5	3	4	4	6	19	20	22
C. resource room	7	10	13	23	25	26	8	5	4	9	5	4	22	22	23
D. full-time special class	3	4	12	6	10	14	21	25	18	9	7	14	2	2	5
E. special day school.	1	2	4	0	2	5	4	4	8	6	4	8	0	0	3
F. hospitalized/homebound.	1	3	10	4	7	10	4	6	8	5	11	17	4	5	9
G. residential	2	0	2	0	0	1	0	0	1	1	2	1	0	0	0

APPENDIX H

TABLE 24

Individual Item Responses for Support Service Availability

	EH			EMR			TMR			MH			LD		
	s	m	l	s	m	l	s	m	l	s	m	l	s	m	l
A. psychological services	13	22	24	27	27	27	25	28	23	14	21	21	26	27	27
B. counseling services	11	16	20	23	21	23	17	15	17	10	12	15	22	18	21
C. parent training/counseling	6	9	6	14	7	6	14	9	12	11	8	11	14	8	6
D. medical assistance	5	7	9	9	9	10	12	10	13	9	10	13	9	9	11
E. psychiatric therapy	2	10	7	5	5	5	4	4	5	2	4	4	6	5	5
F. audiological services	8	15	16	19	20	17	17	20	16	11	16	13	18	19	17
G. speech/language services	11	19	23	25	24	27	22	24	23	15	19	20	25	24	27
H. remedial reading program	8	12	16	19	14	17	8	4	5	7	6	17	22	16	18
I. physical therapy	3	3	3	3	3	4	6	6	9	10	10	12	3	3	3
J. occupational therapy	3	2	0	4	5	2	5	4	5	5	5	6	3	3	0
K. communication-deaf/blind	0	0	2	0	0	2	0	1	4	0	0	4	0	0	2
L. diagnostic/prescriptive teachers	7	5	14	19	12	15	13	9	15	7	5	13	18	12	17
M. physical education/recreation	13	14	16	22	17	18	20	18	15	13	11	12	22	16	17