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What determines a "severe discrepancy?": an analysis of discrepancy factors in determining eligibility for classification as perceptually impaired in four New Jersey school districts

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WHAT DETERMINES A "SEVERE DISCREPANCY?": AN ANALYSIS OF DISCREPANCY FACTORS IN DETERMINING ELIGIBILITY FOR CLASSIFICATION AS PERCEPTUALLY IMPAIRED IN FOUR NEW JERSEY SCHOOL DISTRICTS

by
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ABSTRACT

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Thesis Advisor: Dr. Margaret M. Shuff

Learning Disabilities Graduate Program

The purpose of this study was to review heterogenous school districts in an attempt to analyze discrepancy factors used by districts in determining eligibility for classification as perceptually impaired in New Jersey. A record review of child study team confidential files was conducted in four school districts to research the methodology of the classification of perceptually impaired. A total of 80 student files with an initial classification of perceptually impaired within the last 3 years were evaluated for the severe discrepancy factor. In each of the districts, 20 files were selected randomly for the research.

The data gathered from the school districts were analyzed with descriptive statistics which included t-tests to compare mean and standard deviation scores for each district. Comparisons were made within district between intelligence and achievement scores in the form of paired t-tests of dependent means. Districts were also compared to the other districts in terms of significance using 2-tailed t-tests of independent means. These achievement and intelligence scores were given as mean and standard deviation scores. In the comparison between districts, group statistics correlated the significance of

the severe discrepancy found in each district's files of students classified as perceptually impaired.

Statistically, the differences between achievement and intelligence scores were significant in all districts, but the degrees of significance varied from district to district. When evaluating the significance of achievement - intelligence quotient comparisons by districts, District A just met statistically significant levels, while District C and D met the highest levels of significance.

MINI-ABSTRACT

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The purpose of this study was to review heterogenous school districts in an attempt to analyze discrepancy factors used by districts in determining eligibility for classification as perceptually impaired in New Jersey. Results of this study proved that various definitions of perceptually impaired exist across school districts. Statistically, the differences between achievement and intelligence scores were significant in all districts; but the degrees of significance varied from district to district.

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CHAPTER I

OVERVIEW OF THE PROBLEM

Introduction

Educational assessment of students with disabilities is the systematic process of gathering educationally relevant information to make legal and instructional decisions concerning the provisions of special services (McLoughlin and Lewis, 1994). The federal Education of All Handicapped Children Act of 1975 (P.L.94-142) upgraded the procedures and content of the assessment process while the federal Individuals with Disabilities Education Act of 1990 (P.L.101-476), referred to as IDEA, mandated assessment guidelines to correct past problems in the evaluation process in addition to due process procedures. Individualized Education Programs (IEP) must be developed in a collaborative effort as well as adequate assessment of a student with disabilities by a child study team. States must follow the guidelines set forth by the federal government in order to receive funding for special education.

The New Jersey State Department of Education directs local districts to provide school-based interventions and referrals for students with educational difficulties. When these interventions fail to remediate the difficulties the student is having in school, the student may be referred to the child study team. This team, consisting of a psychologist, learning disabilities teacher / consultant, social worker, and other professionals deemed

necessary to evaluate the student for possible determination as eligible for special education. The New Jersey Administrative Code, Title 6, Chapter 28 (N.J.A.C. 6:28) lists twelve categories of educational disabilities: Auditorily handicapped, Autistic, Chronically ill, Communication handicapped, Emotionally disturbed, Mentally retarded, Multiply handicapped, Neurologically or perceptually impaired, Preschool handicapped, Orthopedically handicapped, Socially maladjusted, and Visually handicapped.

"Perceptually impaired" is defined in N.J.A.C. 6:28-3.5(c)8ii as a specific learning disability manifested by a severe discrepancy between the pupil's current achievement and intellectual ability in one or more of the following areas:

1. Basic reading skills;
2. Reading comprehension;
3. Oral expression;
4. Listening comprehension;
5. Mathematic computation;
6. Mathematic reasoning; and
7. Written expression.

Need for the Study

Currently, the state of New Jersey does not define "severe discrepancy" in an operational statement. Districts throughout the state define this term as child study team policy (with possible functional overrides) or decline written definitions of severe discrepancy. Districts often use standard deviations between achievement and ability as the formula for perceptually impaired. A standard deviation range of 1.0 to 2.0 is typically

required for determination of eligibility as perceptually impaired. Many districts view functional assessment as an overriding factor if the standardization differences are not great enough for severe discrepancy. Clearly, districts in the state determine their own policy relative to which students can be identified as perceptually impaired. Consequently, students may be identified as perceptually impaired in one district and not in another district. Therefore, the diagnosis of perceptually impaired is often subjective and inconsistent throughout school districts in New Jersey.

Research in the classification process must be objective and current. The perceptually impaired classification is the largest in actual numbers and percentages when compared to other categories in the code. Educationally, there is a need to define the terms and boundaries of perceptual impairment for consistent assessment of students with this learning disability. Students who move from district to district should not assessed as perceptually impaired and then as normal achieving. Guidelines can be established by the state on the definition of "severe discrepancy" when assessing students for possible eligibility for special education as perceptually impaired. Studies must be initiated on the interpretation of perceptually impaired, specifically "severe discrepancy" and how the numerous districts in the state of New Jersey are classifying perceptually impaired students.

Focus of the Research and Limitations

This thesis seeks to review heterogeneous school districts in an attempt to develop a definition of "severe discrepancy" as mandated but not defined in N.J.A.C. 6:28 as perceptually impaired. The limitations of this study would be the diversity of the

statement policy of the term if given or the complete lack of written policy in the districts. Further limitations involve the actual implementation and/or classification of the perceptually impaired as far as the consistency factor across school districts and within school districts. Cooperation from school districts is essential in the study. Files must be reviewed and judged acceptable in terms of initial classification of perceptually impaired, tests of achievement and ability must be accurately listed with standard scores, rationale statements for classification, and eligibility statements must be written in the IEP. A member of the child study team would be needed to review the confidential files to assist in researching the necessary data.

Considering these limitations, it is predicted that various definitions of perceptually impaired will exist across school districts in the state of New Jersey. And secondly, it seems likely the data will predict that lower grade levels (i.e. K-3) rely on functional assessment more than higher grade levels (i.e. 4+) since standardized test results are less reliable for the younger population.

Definition of Terms

Functional assessment - N.J.A.C. 6:283.4(d)6i-vi states that a minimum of one structured observation by each child study team member in other than a testing session; interview with the pupil's parent(s); interview with the teacher(s) identifying the potentially educationally disabled pupil; review of the pupil's developmental/educational history including records and interviews; review of interventions documented by the classroom teacher(s) and others who work with the pupil; and one or more informal measure(s)

which may include, but not be limited to:

(1) Surveys and inventories;

(2) Analysis of work samples;

(3) Trial teaching;

(4) Self report;

(5) Criterion referenced tests;

(6) Curriculum based assessment; and

(7) Informal rating scales

Functional override - process in which a child study team supersedes the severe discrepancy formula of ability versus achievement with the functional assessment factor for classification of perceptually impaired

Standardized assessment - according to N.J.A.C. 6:28-3.4(d)5i-vi it is defined as test(s) which are individually administered; valid and reliable; normed on a representative population; and scored as either standard scores with a standard deviation or norm referenced scores with a cutoff score

CHAPTER II

REVIEW OF THE LITERATURE

Defining Learning Disability

The literature to be reviewed provides a historical perspective of the term "learning disability" in accordance with federal and state statutes when applying the achievement - ability discrepancy formula. The mandated discrepancy criteria, which is used for assessment as eligible for special education as learning disabled or perceptually impaired, is never defined in any code or statute.

Generally, "learning disability" can refer to the broad area of learning difficulties that include mental retardation, brain injury, sensory difficulties, or emotional disturbance (Sattler, 1990). Specifically, "learning disability" refers to the failure, on the part of the child who has adequate intelligence, maturational level, cultural background, and educational experiences, to learn a scholastic skill (Sattler, 1990). The latter definition is expanded in Public Law 94-142 (Federal Register, December 29, 1977, p. 65083, 121a5): "Specific learning disability" means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations. The term included such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. The term

does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage. Public Law 94-142 specifies that a designation of specific learning disability should be applied only to children who have a severe discrepancy between achievement and intellectual ability in one or more expressive or receptive skills, such as written expression, listening and reading comprehension, or mathematics.

The Individuals with Disabilities Education Act of 1990 (Public Law 101-476), referred to as IDEA, mandated current guidelines to correct past concerns present in Public Law 94-142: to ensure that all children with disabilities have available to them a free appropriate public education that emphasizes special education and related services designed to meet their particular needs; to ensure that the rights of children with disabilities and their parents or guardians are protected; to assist States and localities to provide for the education of all children with disabilities; and to assess and ensure the effectiveness of efforts to educate children with disabilities (U.S. Department of Education, 1995).

The United States Office of Special Education Programs reports that about twelve (12%) percent of elementary and secondary students receive special education services (U.S. Department of Education, 1995). The State of New Jersey reports that currently anywhere from 9% to 16% of children in the state receive special education services depending on the numerators and denominators in the ratio formula. The higher percentage would include pupils between the ages of three through twenty one years, the

lower percentage would include pupils between the ages of five through eighteen years. According to the New Jersey Statistical Report (1995), the state special education classification rate appears to have leveled off at just about 9.4%. The classification rate has remained in the 9% range since 1990 and is projected by the state to remain at this level through the year 2001.

The perceptually impaired classification accounts for the largest number of students with educational disabilities as well as the highest percentage as a proportion of public school enrollment (Statistical Report, 1995). This classification is the only category that has consistently increased each year since 1978. In public school enrollment figures, the perceptually impaired classification has increased from 2.2% of the student population in 1978 to 6.5% of the student population in 1993. This accounts for an increase in 295% for classification as perceptually impaired. When comparing the actual numbers of perceptually impaired students in New Jersey, there were 31,083 classified in this category in 1978 and 72,333 classified as perceptually impaired in 1993, with a increase of 233% over a fifteen year period.

Discrepancy Factors

Few educational services have grown so swiftly, served so many students, and been surrounded with as much controversy as learning disabilities. With the emergence of a discrepancy clause in the specific learning disabilities definition in Public Law 94-142, definitional emphasis was shifted away from etiological focus to a behavioral focus emphasizing the primary difficulty - reduced learning performance manifested in academic achievement deficits (Kavale, 1987). Kavale states that discrepancy as a theoretical

concept became "reified and deified," supposedly to the exclusion of other relevant concerns. He states that measures of "ability," (intelligence tests) do not represent innate and fixed entities, but are composed of many of the same factors that also influence academic achievement. Kavale states a basic flaw in the notion of "expected achievement" is the implicit assumption that there is a perfect correlation between ability and achievement measures, when in fact many other factors (i.e., motivation) play a pivotal role in academic achievement. He lists concerns that academic achievement tests result in scores that hold much in common with ability test scores, that grade equivalent scores are flawed, and that achievement tests typically provide little information regarding the student's knowledge of the specific skills that make up the school curriculum. Kavale expressed concern that the federal government had not provided us with specific guidelines regarding the necessary level of severity for a discrepancy and that grade level or standard score comparison models may, respectively, over identify and under identify children with lower IQS.

Scruggs (1987) states the federal definition of learning disabilities combines the discrepancy notion with an exclusionary component, which not only refines further the concept of learning disabilities, but also distinguished it from other attributes of school failure not due to deficiencies in intellectual, sensory, or psychosocial functioning, nor due to lack of environmental opportunity. According to this definition, the discrepancy should exist not only between achievement and intelligence, but also between achievement and sensory, psychosocial, and environmental functions. Scruggs further states that discrepancy models free us from reliance upon assessment instruments of questionable

reliability and validity. These models allow us to provide services even when the specific cause of the disability is unknown as well as focus on academic achievement as an integral part of the classification process. Scruggs confirms the importance of teachers in the identification and classification process of learning disabled students.

Work Group

In 1983, the U.S. Department of Education assembled a group of professionals to investigate the learning disabilities diagnosis. This group was called the Work Group on Measurement Issues in the Assessment of Learning Disabilities whose primary mission was a solution to the question, "What constitutes a severe discrepancy, from a statistical perspective, between aptitude and achievement in the evaluation of a learning disability?" The findings included:

1. States have adopted many varieties of measurement models for identifying the "severe discrepancy" between aptitude and achievement in learning disabled populations.
2. Some of the discrepancy formulas that are currently used not only are very complicated in nature, but also are inappropriately implemented.
3. Many of the discrepancy models currently used are mathematically incorrect.

The Work Group made the following observations regarding each type of model:

1. Grade-level discrepancy models. Grade-level discrepancy models over predict children with IQs over 100, while under predicting children with IQs between 70 and 90.

2. Standard score comparison models. Standard score comparison models do not account for the effect of regression on IQ. For example, the expected achievement of a child with a 130 IQ is not 130, but is 120-121, while the reverse is true with lower IQs.

3. Grade-level expectancy models. Grade-level expectancy models that rely upon an arbitrary cut-off grade level are automatically biased against children with higher IQs.

4. Multiple comparison models. Most discrepancy models fail to account for the use of multiple comparisons. Although educators may be attempting to serve children, the use of multiple comparisons increased the possibility of finding a severe discrepancy.

Recommendations to educators by the Work Group when using a severe discrepancy formula in the diagnosis of learning disabilities included the use of:

1. Adequate tests (in accordance with PL 94-142)

2. Tests that have representative normative data, adequate reliability and validity data, and data regarding possible test bias

3. Tests that contain standardization samples that include the targeted population

4. Individually administered tests

5. Formulas that account for regression effects (Reynolds, 1984-85)

Aptitude-Achievement: Standard Scores

Mercer, King-Sears, & Mercer (1990) surveyed 51 State Departments of

Education (including Washington, D.C.) concerning their learning disabilities definitions, assessment criteria, and operational procedures. The study analyzed data from the States in terms of definition and criteria since definitions and criteria are often not the same. The discrepancy component is referred to as a "difference between a student's potential to achieve, usually measured by an intelligence (IQ) test, and actual achievement, historically measured by a standardized achievement test" (p. 142). Since standards vary from state to state, professionals cannot agree on the best method for determining discrepancy. The results of this study found that the discrepancy component was present in 27% of the states' definition of learning disabilities, 86% of the states' criteria for learning disabilities, and 88% of the states' criteria and/or definition. When further analyzed, the operationalization of discrepancy numbers were as follows:

Operationalization of Discrepancy	Definition	Criteria	Criteria and/or Definition
Standard scores		18	18
Standard deviation		23	23
Regression formula		13	13
WISC-R verbal vs. performance		1	1
40%-50% or more discrepancy	1	2	3
Grade-level discrepancy		2	2
No statement about operationalization	1	10	11

In reviewing N.J.A.C. 6:28, the definition of learning disabilities is referred to as perceptually impaired, "manifested by a severe discrepancy between the pupils' current achievement and intellectual ability in one or more of the following areas:

1. Basic reading skills;
2. Reading comprehension;
3. Oral expression;
4. Listening comprehension;
5. Mathematic computation;
6. Mathematic reasoning;
7. Written expression.

The severe discrepancy clause is written in the state code for perceptually impaired which mandates that a severe discrepancy must exist between achievement and ability. Yet, N.J.A.C. 6:28 does not contain an operationalization statement of the discrepancy component in the code nor in the definition of perceptually impaired.

Mercer, King-Sears, & Mercer (1990, p. 151) concluded that most states operationalize the academic and language components in terms of a discrepancy. "Discrepancy is the only component that is frequent in criteria (86%) but rare in definitions (27%)". "Based on our findings, it appears that a clear statement relative to the existence of a discrepancy needs to be included in the definition of learning disabilities"(p.152). The researchers also stated that most states' criteria included a clause (i.e., functional override) that allows a multidisiplinary team to override if the learning disabilities placement is deemed appropriate without the numerical support of the

discrepancy formula.

Ross (1990) researched the consistency among school psychologists in evaluating discrepancy scores as a criteria for learning disabilities. She found in her study of 26 psychologists that only 11.5% (n=3) selected the correct answer based on standard score comparisons. "This is what would be expected on the basis of chance; specifically, the probability of occurrence is 1/3 x 1/3 = 1/9 = 11.1%" (p. 213). Ross concluded that participants arrived at inconsistent choices to the hypothetical cases even though the psychologists knew that standard scores were the scores of choice in the discrepancy formula, that age and grade-level scores had little utility, and that the standard error of measurement was an important concern in the discrepancy analysis. The study confirms other research, according to Ross, that school psychologists and other diagnostic personnel are inconsistent when evaluating fictitious test data for discrepancies in student functioning.

Conceptual Problems

Stanovich (1991) studied the conceptual and empirical problems associated with discrepancy definitions related to reading disabilities. He states that "the use of intelligence as an aptitude benchmark in defining dyslexia conceals unsupported assumptions about educational potential and makes it difficult to differentiate the cognitive characteristics of dyslexic children from those of other poor readers"(p.274). Stanovich concludes that defining dyslexia by discrepancy formulas using intelligence quotient (IQ) scores is questionable and that listening comprehension or some other verbal aptitude indicator is more reliable for the diagnosis of learning disabilities.

Kavale, Forness, & Lorsbach (1991) researched the definitions of learning disabilities which they considered to be operational in nature and, therefore, fraught with conceptual difficulties. Discrepancy was discussed as the main difficulty in the learning disabilities definition since this formula restricts "the Aristotelian sense of providing an essence" (p. 258). The researchers suggest an hierarchical distribution of the operational statements found in the components of learning disabilities. These levels and interpretations are listed from I (necessary) to V (sufficient) as an operational definition of learning disabilities:

I. Discrepancy documentation between aptitude and achievement;

II. Achievement deficit noted in a specific area (reading, language, math);

II. Learning efficiency analyzed as per strategy and rate;

IV. Specific area deficit: attention, memory, perception, cognitive processing;

V. Specific skills deficits: social cognition, linguistic processing, problem solving, concept formation, metacognition.

Kavale et al. (1991) concluded that the definition ot learning disabilities cannot be defined in a strict manner since it is doubtful that any universal definition of learning disabilities would be accepted as the correct one by all professionals. They suggest a "different perspective on the nature of operational definitions wherein it is viewed as a series of operational interpretations" (p. 265).

Smith (1991) surveyed 216 practicing school psychologists in Minnesota on the assessment, criteria and procedures, and recommendations for learning disabilities

placement. "Although learning disabilities criteria varied from district to district, the majority of respondents reported the use of an ability - achievement discrepancy, which is consistent with the majority of other states" (p. 6). The range of the discrepancy varied from one-to-two standard deviations with a majority conveying the use of a one and one-half or two standard deviations difference for a learning disabilities placement. In the study, 59% of the sample recommended the ability - achievement discrepancy with a 22 point standard score difference between evaluative assessments as the criteria for learning disabilities. Curriculum-based assessment was preferred by 14% as the criteria, while 13% recommended a combination of ability - achievement discrepancy and curriculum-based assessment for the classification as learning disabled. The question of the establishment of criteria for learning disabilities was addressed with mixed results from the respondents in the sample. No consensus of opinion was found in this area, with some opting for state agencies, individual school districts, or individual child study teams to set up criteria standards. However, many respondents did agree that states or local districts could establish guidelines as criteria in assessment of learning disabilities.

Connell (1991) analyzed the aptitude - achievement discrepancy formulas in learning disability assessment in the Southeast United States. The sample consisted of 580 randomly selected students in third, fourth, and fifth grades who had been referred for educational assessment as learning disabled using different models of the discrepancy formula: simple difference, estimated true difference, and frequency of regression prediction.

> The lack of agreement between a regression model and other standard score models in identifying students with a severe discrepancy between ability and achievement suggests that the model chosen could have a significant impact on the identification process. If a regression model is chosen as a discrepancy criterion, fewer students will be identified than would be identified using a simple difference model or an estimated true difference models. A regression model is not interchangeable with a simple difference or estimated true difference model; however, the simple difference and the estimated true difference models can be used interchangeable (p. 19).

Connell concluded from her research that the use of a regression model for computing discrepancy between aptitude - achievement was the optimal method since it was more effective in decreasing the number of students who were identified as exhibiting a severe discrepancy while preserving a constant identification process.

McLeskey (1992) researched the identification and characteristics of students with possible learning disabilities in the primary, intermediate, and secondary grade levels. His sample included 790 students in Indiana schools who had been referred for assessment of learning disabilities. Students were referred more often in the lower grades while secondary grade students were referred less.

Grade Referred	Percentage
1	20.5%
2	20.4%
3	16.5%
4	11.1%
5	5.9%
6	6.1%
7	6.7%
8	4.8%
9	3.9%
10	1.6%
11	0.9%
12	0.4%

McLeskey reported that 67% of the students in the sample demonstrated a severe discrepancy between expected and actual achievements using different methods of discrepancy formulas. McLeskey concluded that certain trends are apparent when comparing his numbers of discrepancy cases with precious studies: "Students with more severe reading problems were identified in the earlier grades, while students at the secondary level tended to have more severe problems with mathematics" (p. 18). The Indiana study found that students in the lower grades were more apt to have a severe discrepancy between expected and actual achievement levels than secondary students. This contradicts previous studies (e.g., Cone et al, 1985; Norman & Zigmond, 1980;

Shepard & Smith, 1983) that found that older students had greater discrepancies. These studies concluded that the level of severe discrepancy was positively correlated with student age at the time of identification as learning disable; in other words, the older the student, the greater the discrepancy between expected and actual achievement.

Reynolds (1992) reviewed severe discrepancy in the diagnosis of learning disabilities. The federal government adopted the rules and regulations of Public Law 94-142 which stated that the determination of learning disabilities is made in part on the basis of "whether the child has a severe discrepancy between achievement and intellectual ability in one or more of seven areas relating to communication skills and mathematical abilities" (Federal Register, 1977, 42, p. 65082). This law offered no severe discrepancy criteria. States had to implement their own criteria for this requirement if they so choose; many states did so in a variety of methods, other states did not qualify or expand on this definition allowing local districts to decide the severe discrepancy criteria needed for learning disabilities. Reynolds concluded that the various models used for discrepancy accounts for the great diversity of learning disabilities among states' percentages. He supports the use of the regression model to calculate the severe discrepancy. Reynolds (1992, p. 5) states that "this continues to be an ipsative model (rather than a normative one) as befits learning disabilities - a disorder defined largely by the individuality of the student" which further confirms the use of the regression model.

Kavale and Reese (1992) summarized the findings from the Iowa Learning Disabilities Evaluation Project which researched the nature and characteristics of 917 learning disabled students in the state. Iowa's definition of learning disabilities included

discrepancy which is based on the regressed standard score method. "Discrepancy in Iowa is determined by comparing the student's grade level and IQ score with expected and criterion values for 5 achievement measures on standard score tables" (p. 81). It was found that only 55% of the sample met the discrepancy criterion cited in the state law. The researchers concluded that discrepancy is but one factor in the diagnosis of learning disabilities and that mathematical equations do not always accurately indicate a student with learning disabilities. Kavale and Reese suggest that "if individual cases do not meet the exact requirements, it appears that additional factors are to be considered in judgments about learning disabilities classification" (p. 83).

Finlan (1992) researched individual states' methods of defining a severe discrepancy for determining learning disabilities eligibility as reported to the federal government. He concluded that states with a discrepancy requirement had a lower percentage of learning disabled students and the states that did not have a discrepancy requirement had a larger percentage of learning disabled students. For example, it was reported that the 5 lowest percentage states and the 5 highest percentage states had figures as follows:

Lowest

State	LD%	Discrepancy Requirement
Georgia	2.19	Standard score
Wisconsin	2.79	Expectancy formula
Louisiana	2.96	Expectancy formula
Kentucky	3.21	Standard score

Kansas	3.71	Standard score/regression formula

Highest

Rhode Island	8.66	None
New Jersey	7.03	None
Delaware	6.82	None
Alaska	6.36	None
Connecticut	6.35	Standard score

Finlan (1992) concluded that there are many reasons for the identification of differing numbers of learning disabled students across states, including "(a) the degree to which states require practioners to follow state guidelines, (b) how long ago the methods were adopted, © the prevailing attitudes in the various states regarding learning disabilities services, and (d) the use of discrepancy methods by practioners in the states despite no legislative mandate" (p. 133).

Academic Standards: Conflicting Opinions

Algozzine, Ysseldyke and McGue (1995) compared the performance of low achieving (LA) to learning disabled (LD) students on standardized ability and achievement tests. The researchers concluded that "students with LD often represent the lowest of the low achievers in a classroom, school, district, state, or nation. [They]... do not believe that these differences in overall achievement test performance are sufficient enough to suggest that many of these students have qualitatively different needs than many of their LA peers" (p. 144).

Kavale (1995) reaffirmed the difference between learning disabled (LD) and low achieving (LA) students. He agrees with Algozzine et al. that LD students are the lowest of the low in achievement scores but equivalent on the ability distribution. However, "because the LD group are lower on achievement dimensions but not on ability, they are, in addition to being the lowest of the low achievers, a different population defined by an ability - achievement distinction represented in a different achievement distribution but not in a different ability distribution" (p. 146).

Algozzine et al. (1995, p. 140) stated the "problem of low achievement in schools is longstanding and complex." Kavale (1995, p. 149) contended: "but what is equally true is that the problem of low achievement has little bearing on learning disabilities; the two conditions are not equivalent and should not be viewed as such."

The Commissioner of Education in New Jersey stated that "New Jersey's 'perceptually impaired' category lacks well-defined and universally accepted classification criteria. Classification as 'perceptually impaired' often merely describes the fact that a student is doing less well in school than might be expected, without providing evidence of, or information about, an underlying disability" (Klagholz, 1995, p. 3). Klagholz concluded that an examination of all the variables involved in the classification process in the state of New Jersey is necessary given the information previously noted in current studies and statistical findings. Particular attention should be focused on assessment criteria that lacks definition or operational methods. Klagholz has instructed the Department of Education's Office of Special Education to research these and other relevant issues and report to him on their findings and recommendations by the beginning

of the next school year 1995 - 1996. Such directives reinforce the need for studies such as the one presented here which will focus on the consistency, or lack thereof, of the application of the state's mandated eligibility criteria for perceptually impaired.

It is hypothesized that various definitions of perceptually impaired will exist across school districts in the state of New Jersey. And secondly, it seems likely that the data will predict that lower grade levels (e.g., K-3) rely on functional assessment more than the higher grade levels (e.g., 4+) since standardized test results are less reliable for the younger population.

CHAPTER III

METHODOLOGY

This study is classified as descriptive in design. This is a common design to investigate the achievement - ability discrepancy question posed in this study as reflected by the literature reviewed in the previous chapter.

Participants

A record review of child study team confidential files was conducted in various New Jersey districts to research the methodology of the classification of perceptually impaired. A total of 80 student files with an initial classification of perceptually impaired within the last three (3) years was reviewed in four (4) school districts. Twenty (20) randomly selected files were evaluated in each of the districts. The school districts are described with demographic data which includes the grade plan (e.g., PreK - Grade 8), community type, total enrollment, total classified, percentage classified, and District Factor Grouping (DFG). Table 1 presents this data.

The district's sample of files were evaluated for further characteristics of their perceptually impaired students. Ratio of male-female distribution, mean age, and range of ages can be found in Table 2 describing the individual districts.

These districts voluntarily consented to allow this review of their child study team files for research purposes after recommendations from the thesis advisor, the Director of

Child Study Teams for Atlantic and Cape May Counties, and the Senior Research Analyst for the New Jersey State Department of Education.

Setting

Records were reviewed in each district's child study team office with a member of the team present for interpretation and clarification of the relevant data. File systems and organization were unique to each district. The duration of time spent in each district was dependent on the ease of availability of the necessary data for review.

Measures

A data collection form (see Appendix A) was utilized in the research study which contained pertinent questions concerning the "severe discrepancy" formula for each school district. Date of eligibility, age, grade, intelligence test and scores, achievement test and scores, rationale statement for eligibility, and the district or child study team policy concerning severe discrepancy, written or otherwise, was listed on the form as per N.J.A.C. 6:28-3.4(d) requirements.

Procedure

Informed consent was obtained from the individual district's supervisor of special services. Initial contact was made through a packet of information that was mailed to each district on November 1, 1995. The packet contained a personal appeal (see Appendix B) from the researcher, a letter from the thesis advisor, and a sample copy of the data collection form. Phone calls clarified the research study and requested convenient times to review the appropriate files. All four districts were visited during regular school hours or shortly following pupil dismissal. A copy of the results from this research study

were promised to each participating district, the county supervisor, and the state research analyst for their cooperation and support in this academic endeavor.

Analysis

The data gathered from the school districts were analyzed with descriptive statistics which included t-test results to compare mean and standard deviation scores from each district. Comparisons were made within district between intelligence and achievement scores in the form of a paired t-test of dependent means. Districts were also compared to the other districts in terms of significance using a 2-tailed t-test of independent means. These achievement and intelligence scores were given as mean and standard deviation scores. In the comparison between districts, group statistics correlated the significance of the "severe discrepancy" found in each district's perceptually impaired files.

CHAPTER IV

ANALYSIS OF RESULTS

The purpose of this study was to review heterogenous school districts in an attempt to analyze discrepancy factors used by the districts in determining eligibility for classification as perceptually impaired.

Although twenty files were examined from each of the four districts, only one district, District D, had complete intelligence and achievement scores for comparison in the severe discrepancy factor analysis. The following districts had files with incomplete data: District A, 19; District B, 19; District C, 15. For purposes of this analysis, only the completed files were included in the statistical examination of the utilization of the severe discrepancy factor as required by federal and state statues. See Table 3 for a summary of intelligence quotients (IQ) and achievement scores (ACH) in a comparison study in terms of standard deviation and mean scores.

Comparison of Intelligence Quotients Across Districts

In looking at Table 3, District D had the highest mean IQ which ranged from 127 to 89 and the highest standard deviation mean score in the study. District A had the lowest mean IQ which ranged from 92 to 70 with the lowest standard deviation mean score. The standardized measures used in all districts were the Wechsler Intelligence Scale for Children III (WISC-III), Wechsler Intelligence Scale for Children-Revised (WISC- R),

and the Stanford-Binet Intelligence Scale: Fourth Edition (SBI-IV).

According to the statistical manuals for each of the above referenced tests, three districts (A, B, C) had mean IQ scores in the "low average" range while only one, District D had a mean IQ score in the "average" range. District D was significantly higher in mean IQ score when compared to District A, $t_{(38)}=8.90, p<.001$. Figure 1 presents a comparison of the mean IQ and achievement scores. The significance of achievement- intelligence quotient comparisons by district is located in Table 4.

Comparison of Achievement Scores Across Districts

Table 3 presents the mean scores and standard deviations for achievement levels used for academic analysis in the severe discrepancy formula. Again, District D had the highest mean achievement score which ranged from 59 to 99 with a standard deviation mean score of 9.75. District A had the lowest mean achievement score which ranged from 16 to 103 with the highest standard deviation mean score of 17.95. The standardized measures used in the districts were the Wechsler Individual Achievement Test (WIAT), Woodcock - Johnson Psycho-Educational Battery - Revised (WJ-R), and the Peabody Individual Achievement Test - Revised (PIAT-R).

McLoughlin and Lewis (1992) place all these district mean achievement scores in the "low average" range which extend from 70 to 84. District D was again significantly higher in mean achievement score when compared to District A, $t_{(28)}=3.23, p<.01$. These standard scores for achievement were based on the lowest subtest or composite score listed in the learning evaluation as the rationale for classification as perceptually impaired. Figure 1 presents a comparison of the districts mean IQ and achievement scores. The

significance of achievement-intelligence quotient comparisons by district is located in Table 4 for a further review of the individual districts degree of significance.

Comparison of District to District

Table 5 presents the paired samples between groups for achievement (ACH) and intelligence (IQ) scores using a 2-tailed t-test of independent means. Comparing the reported ACH and IQ scores from District A and District D, these were found to have the greatest significance between districts as previously cited. However, in terms of differences between achievement and intelligence scores, varying degrees of significance were found across all the school districts. Figure 2 presents a comparison of IQ and achievement scores across districts according to standard deviation differences computed in this research study.

Conclusions

Based on these results, the first hypothesis was met since it was predicted that various definitions of perceptually impaired existed across school districts of New Jersey. And in the second hypothesis, it was not found that the lower grade levels (e.g., K-3) rely on functional assessment more than the higher grade levels (e.g., 4+). Statistically, the differences between achievement and intelligence scores were significant for each district...but were they severe?

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purpose of this study was to review heterogenous school districts in an attempt to analyze discrepancy factors used by districts in determining eligibility for classification as perceptually impaired in New Jersey.

Few educational services have grown so swiftly, served so many students, and been surrounded with as much controversy as learning disabilities. Specific learning disability, as defined in the federal Public Law 94-142, refers to a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect abilitity to listen, think, speak, read, write, spell, or to do mathematical calculations. This designation should only be applied to children who have a severe discrepancy between achievement and intellectual ability. In the state of New Jersey, as defined in N.J.A.C. 6:28-3.5(c)8ii, perceptually impaired refers to a specific learning disability manifested by a severe discrepancy between the pupil's current achievement and intellectual ability in one or more of the following areas: basic reading skills, reading comprehension, oral expression, listening comprehension, mathematic computation, mathematic reasoning, and written expression. Currently, neither the federal government nor many state governments define the term

severe discrepancy.

A record review of child study team's confidential files was conducted in four New Jersey school districts. In each district, 20 randomly selected files, with an initial classification of perceptually impaired within the last three years, were analyzed to investigate the severe discrepancy factors. Standard scores in achievement and ability were statistically analyzed for significance. Rationale statements for eligibility were evaluated for content requiring severe discrepancy. Date of eligibility, age, sex, grade, intelligence and achievement tests used in assessment, and the district or child study team policy concerning severe discrepancy, written or otherwise, were collected for further comparisons. These school districts were cooperative and supportive in this research study; other districts refused any suggestion of viewing their child study files stating that "it was not in their best interests to allow . . . "

Conclusions

Currently, New Jersey has the second highest percentage of perceptually impaired / specific learning disabled in the country. Research concerning individual states' methods of defining a severe discrepancy concluded that states with a discrepancy requirement had a lower percentage of learning disabled students and those states that did not have a discrepancy requirement had a larger percentage of learning disabled students. New Jersey does have a discrepancy requirement but it is one of the states that does not define or specify what constitutes a severe discrepancy.

In this research study, it was found that some school districts have a written policy regarding their definition of severe discrepancy; however, most districts did not have such

a policy. In these districts without a written policy, the child study teams decide which students are perceptually impaired. Often, these findings are inconsistent from student to student and usually inconsistent between school districts. Students classified in one district as perceptually impaired may be found to be normal achieving by another child study team in their district.

In comparing the districts, it was noted that District D had the highest mean IQ and mean achievement score. This district also had the highest District Factor Grouping (DFG) and the lowest percentage of classified students in the study. When evaluating the significance of achievement - intelligence quotient comparisons by districts, District D along with District C, had the highest statistically significant scores between achievement and ability.

In contrast, District A had the lowest District Factor Grouping (DFG) and the lowest mean IQ and mean achievement scores. The percentage of classified students per school population was the same as District B but not as high as District C. When evaluating the significance of achievement - intelligence quotient comparisons by districts, District A just met statistically significant levels between the studied areas and ranked the lowest among the school districts in this category. When comparing district mean scores for intelligence and achievement, District A had an 8-point difference between the two areas; District D had a 20-point discrepancy. Clearly, District A and District D assess students in their respective school populations for classification as perceptually impaired in a different manner.

An analysis of the data collected in this study indicates that various definitions of perceptually impaired exist throughout school districts in New Jersey. Statistically, the differences between achievement and intelligence scores were significant for each district. However, the statistical significance ranged from a minimum of .50 in District A to a maximum of .001 in District C and D. District B had a significance of .01, placing it in the middle range, when comparing the differences between achievement and intelligence scores. Secondly, it was not found that lower grade levels (i.e., K-3) rely on functional assessment more than higher grade levels (i.e., 4+). Functional assessment was never used as a primary source of achievement levels for classification as perceptually impaired; it was only stated in the rationale statement for eligibility as a secondary measure that further confirmed the student's academic levels.

Recommendations

Before July 1992, the definition of perceptually impaired students in New Jersey did not include a requirement for a severe discrepancy between achievement and ability. This statute required only that a disorder in understanding and learning which affects the ability to listen, think, speak, read, write, spell and/or compute to the extent that special education be present, but did not define how "disorder" should be interpreted. Since this definition was considered vague, and in fact, represented the largest of the 12 categories listed in the special education code, revisions were made to better define the term perceptually impaired. Consequently, the new definition (adopted July, 1992) includes the severe discrepancy clause between achievement and ability. However, research has shown that without some form of discrepancy requirement (e.g., standard score, expectancy

formula, regression formula), New Jersey's numbers of perceptually impaired students will continue to increase. There is a definite need for an operational definition of perceptually impaired, specifically, the severe discrepancy clause. If an open interpretation of this clause continues, the numbers of students classified as perceptually impaired will continue to escalate. According to this study of school districts, many of these students were not perceptually impaired but were, rather, low achieving. This was particularly true of districts with low ability mean scores. Since New Jersey has profiency standards, namely target grades for funding and high school profiency tests for graduation, it places undue pressures on the districts with a lower ability population to classify students; hence, exemption from the state's requirements.

There are limitations to the achievement - ability discrepancy analysis that must be addressed in this study. Young children, particularly students in the lower elementary grades, have had limited academic experiences. To properly assess a young child for learning problems, a variety of learning experiences must have taken place before a valid assessment can occur. There are also inherent problems in standardized tests for the younger student since the results are less reliable and valid than for the older student.

The Council for Exceptional Children presented the Director of the U.S. Office of Special Education Programs with a proposal for alternative criteria for determining eligibility for learning disabilities. "This proposal was based on concern for the current federal rules and regulations which state that students must have a severe aptitude - achievement discrepancy to be eligible for services as learning disabled"(DLD, 1995, p. 5). The proposal recommends the following alternative criteria:

(a) A team may determine that a student has a specific learning disability if -

(1) the student does not achieve commensurate with his or her age or ability levels in one or more of the areas listed in a paragraph (a) (2) of this section, when provided with learning experiences appropriate for that student's age and ability levels; and

(2) (For students grade 3 and below): The team finds that a student has unexpected poor performance in one or more of the following areas:

(i) Oral expression;

(ii) Listening comprehension;

(iii) Basic reading skills;

(iv) Reading comprehension;

(v) Basic writing skills;

(vi) Written expression;

(vii) Mathematics calculations; or

(viii) Mathematics reasoning.

and that a student has unexpected poor performance in one or more areas that research has demonstrated to be indicators of academic failure.

(For students grade 4 and above): The team finds that a student has a severe discrepancy between intellectual ability and achievement in one or more of the following areas:

(i) Oral expression;

(ii) Listening comprehension;

(iii) Basic reading skills;

(iv) Reading comprehension;

(v) Basic writing skills;

(vi) Written expression;

(vii) Mathematics calculations; or

(viii) Mathematics reasoning. (DLD, 1995, pp. 4, 8)

The proposal for alternative criteria for determining eligibility for learning disabilities, as presented by CEC, still presents problems related to the lack of specificity found in the current federal and state statutes. The clause "...student has unexpected poor performance..." appears to have even larger connotations than the term severe discrepancy. If the state is seeking to reduce the number of students currently being classified as perceptually impaired, the CEC proposed criteria would be "an open door" to all low achieving students in grades 3 and below. This proposal also eliminates the exclusionary component present in P.L. 94-142 and N.J.A.C. 6:28; wherein learning disabled or perceptually impaired students can not include those who have learning problems which are the result of any other educationally disabling condition or environmental, cultural or economic disadvantage.

There is a definite need for further research on the definition of the severe discrepancy clause found in the perceptually impaired category in New Jersey. School districts and child study teams continue to interpret this clause according to their own needs, whether they be financial or educational. The state needs to set guidelines to assist

or direct the school districts in their interpretation of perceptually impaired. Discrepancy formulas need to be implemented and followed. Functional assessment or functional overrides with proper documentation may be appropriate as opposed to standardized tests when classifying students in the lower grade levels (i.e., K-3).

There are conflicting opinions in the academic community as to the differences between learning disabilities and low achievement. Some educators believe that learning disabled (LD) students are the lowest of the low achievers (LA), and that both LD and LA have the same educational needs regardless of their overall achievement test performance. Other academics theorize that learning disabled students and low achieving students are not equivalent and should not be regarded as such. These conflicting opinions continue throughout New Jersey and the country as a whole. If there is a need for academic assistance for low achieving students, corrective action and possible laws must address that group of students and not attempt to include them within the learning disabled category. A clearly specified or well defined discrepancy requirement in the state code would help to distinguish the differences between these two diverse groups.

Future Research Recommendations

1. Even though 80 files from four districts were analyzed in the research, a larger sample would increase the validity of the study.

2. It would be be beneficial if authority were granted to investigate school districts' child study team records without approval to review their files. The districts who opened their files might not be representative of all child study teams.

3. Applying the various statistical formulas (e.g., regression, expectancy, standard score)

to the reported test scores for achievement and ability when computing the severe discrepancy necessary for classification as perceptually impaired. The findings could be compared to district or child study team policy for consistency and validity.

As the numbers of perceptually impaired students continue to climb, it is imperative that a full understanding of the process involved in the classification of perceptually impaired students be investigated. Future research will improve the practice of consistent identification of these students. Further studies may also suggest additional factors that may be influencing the constant rise in numbers of students classified as perceptually impaired in New Jersey.

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Table 1.

Demographic Data of School Districts (N.J. Statistical Report, 1995)

District	Grade Plan	Total Enrolled	Total Classified	Percent Classified	Community Type	District Factor Group[1]
District A	PreK-12	3073.5	547	14.7	urban-suburban	1
District B	K-8	1190.0	225	14.7	suburban	3
District C	K-12	4484.0	924	16.7	suburban-rural	3
District D	K-8	749.0	108	9.9	suburban	5

1

District Factor Grouping (DFG) is defined as a rough measure of socio-economic level ranked on an 8 point scale based on the 1990 census data; A=low; J=high...DFGs are reported as numbers rather that letters; A=1, B=2, CD=3, DE=4, FG=5, GH=6, etc.

Table 2.

Description of Sample Across Districts

District	Males	Females	Mean Age	Range
A	13	7	9.44	6.2 - 13.1
B	10	10	7.92	6.1 - 10.9
C	13	7	9.18	8.5 - 11.8
D	15	5	7.77	5.8 - 10.7

Table 3.

Description of Sample in Terms of Mean Scores (standard deviations in parentheses) for IQ and Achievement

District	n	IQ (SD)	ACH (SD)
A	19	80.55 (5.54)	72.58 (17.95)
B	19	88.40 (9.76)	81.00 (7.81)
C	15	87.95 (8.74)	80.33 (7.78)
D	20	104.80 (10.84)	84.60 (9.75)

Table 4.

Significance of Achievement - Intelligence Quotient Comparisons by District

Pair	t	df	Sig. (2-tailed)
District A: ACH-IQ	2.10	18	.050
District B: ACH-IQ	3.62	18	.010
District C: ACH-IQ	4.94	14	.001
District D: ACH-IQ	8.90	19	.001

Table 5.

Comparisons Between Districts by Achievement and Intelligence Quotients

Achievement

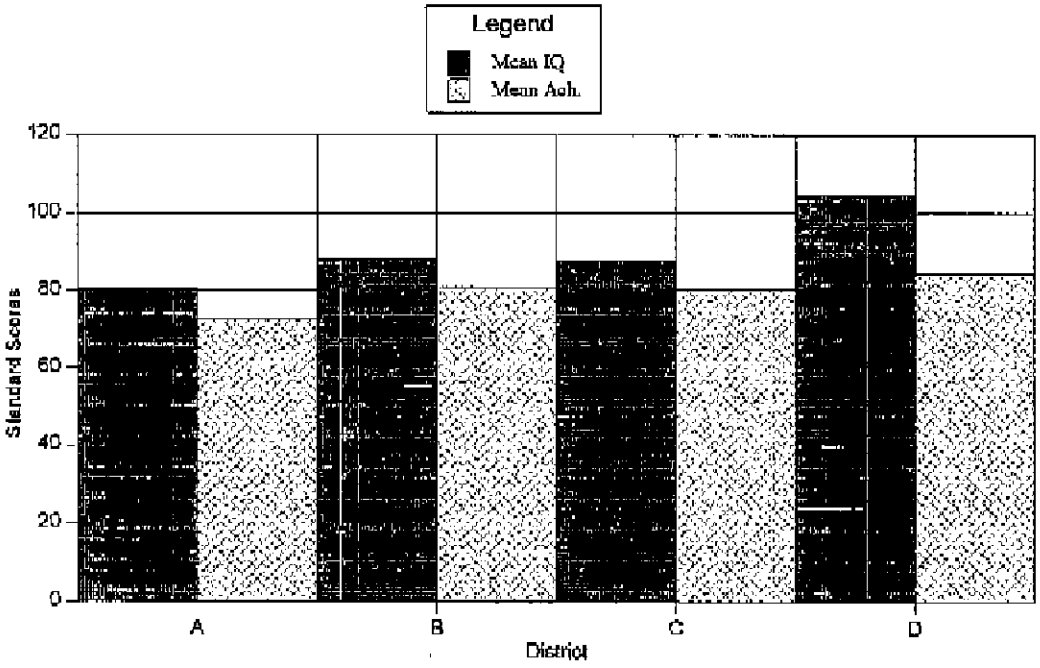
District Pair	t	df	Sig.
A - B	2.19	28	.05
A - C	1.69	28	NS
B - C	.64	28	NS
A - D	3.23	28	.01
B - D	1.34	28	NS
C - D	1.96	28	NS

Intelligence Quotients

District Pair	t	df	Sig.
A - B	3.29	38	.01
A - C	3.20	38	.01
B - C	.26	38	NS
A - D	8.91	38	.001
B - D	4.97	38	.001
C - D	5.41	38	.001

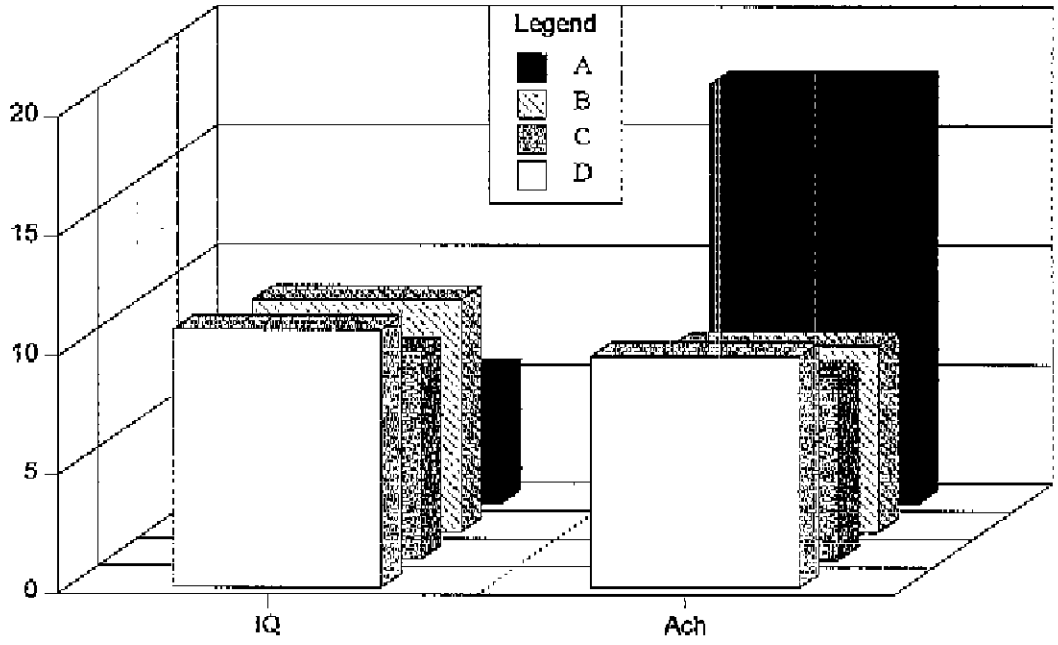
List of Figures

District Comparisons
Mean IQ and Ach. Scores



Comparison of IQ and Achievement

Across Districts



APPENDIX A

DATA COLLECTION FORM*

Date:

Student ID#

1. Date of Eligibility

2. Date of Birth

3. Chronological Age

4. Grade or Grade Equivalent (i.e., transitional first)

5. Sex/Ethnicity

6. IQ Test Administered
   Indicate which score was used when possible:
   Verbal

   Performance

   Full Scale

7. Achievement Test(s) Administered (standard scores)
   Indicate which score was used when possible:
   Reading

   Math

   Language and/or other

*All district and student information will be treated with the utmost respect for, and maintenance of, confidentiality. No district or student will be identified by name.

8. If discrepancy exists, list in what areas and scores used, what is the standard deviation?

9. Rationale Statement for Eligibility

10. How is the severe discrepancy indicated or defined by the child study team or district?

11. Other

APPENDIX B

234 Cambridge Avenue
Linwood, NJ 08221
November 1, 1995

Dear Supervisor of Special Services,

I am a graduate student in the Learning Disabilities program at Rowan College in Glassboro, New Jersey conducting research in the criteria used to determine student eligibility for classification as perceptually impaired in several districts throughout the state.

Dr. Molenaar, Senior Research Analyst of the New Jersey State Department of Education, and Mr. John Misieczko, Child Study Team Supervisor of Atlantic and Cape May Counties, have given their support through advice, guidance, and research material.

All district and student information will be treated with the utmost respect for, and maintenance of, confidentiality. As such, co district or student will be identified in my thesis project. The results of this study will be shared with the cooperating districts, if they so desire.

Any assistance and cooperation that you can provide me would be greatly appreciated. I would need the assistance of one of the child study team members for access to your files to randomly select twenty (20) initial classification as perceptually impaired cases for my research study. I will be contacting your office in the next week to possibly set up a convenient time for a meeting.

Enclosed please find a copy of the Data Collection Form I will be using in my research and a letter from my thesis advisor.

Thank you for your time and hopefully, your cooperation.

Sincerely,

Robin Dolan