

ANALYSIS OF INDIVIDUALIZED EDUCATION PROGRAMS (IEPs)  
FOR STUDENTS WITH BEHAVIORAL DISORDERS AND LEARNING  
DISABILITIES IN PUBLIC SCHOOL SELF-CONTAINED  
AND RESOURCE ROOM SETTINGS

by

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## ABSTRACT

The purpose of the present investigation was to compare Individualized Education Programs (IEPs) of fourth, fifth, and sixth grade male students with behavioral disorders and learning disabilities assigned to resource and self-contained delivery programs. Research data were collected via the Program Evaluation for Procedural and Substantive Efficacy (PEPSE), an instrument designed to assess (a) federal mandated compliance, (b) number of annual goals and completed short-term objectives, and (c) congruency (i.e., the match or link between the present level of performance statement and IEP annual goals).

One hundred and twenty IEPs were systematically sampled from two urban, two suburban/rural, one suburban, and seven rural special education cooperatives. Four groups comprised the study sample: (a) IEPs of students with behavioral disorders assigned to self-contained special education classrooms; (b) IEPs of students with behavioral disorders receiving instruction in a resource room setting; (c) IEPs of students with learning disabilities assigned to a self-contained classroom; and (d) IEPs of students with learning disabilities receiving special education services in a resource program.

Results of the study revealed significant procedural mean differences between IEPs of students assigned to

learning disability resource programs and IEPs of students assigned to behavioral disorder resource programs. Significant differences were also found between student classification and delivery model in the number of academic, behavior, and other goals, short-term objectives met, and congruency between annual goals and present level of performance. Chi-square analyses were conducted when lack of congruence was found (i.e., when performance level information failed to reveal a need but an annual goal was written, or when performance level information revealed a need in the absence of an annual goal). Frequency differences in the academic domain were found between diagnostic categories and in the academic and social/emotional domains between delivery models.

Implications and issues are discussed with regard to the relationship of the IEP and actual classroom activities. Suggestions for future research are also presented.

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## CHAPTER I

### INTRODUCTION

Special education as practiced in public schools is, in large measure, a result of "organized advocacy efforts, legislative campaigns, and litigation of the 1970s" (Meyen, 1982, p. 35). These events, including the passage of Public Law 94-142, the Education for All Handicapped Children Act (EHA) of 1975, established children's right to a "free, appropriate public education." "Appropriate" education has been interpreted to mean that children with disabilities should be educated in the least restrictive environment in accordance with their specific educational needs. As prescribed in the EHA, a free, appropriate public education requires an individualized approach to educating children monitored by an Individualized Education Program (IEP).

The IEP is the sine qua non of the EHA. For special education there is no document more significant to districts, agencies, administrators, teachers, parent/educational advocates, and most importantly, students. The IEP was intended to be the cornerstone of the EHA, the necessary component from which the law was to be monitored and enforced. The IEP supports individualized instruction based on egalitarian views with the hope of providing adequate educational opportunities for children

and youth with handicapping conditions.

Without the IEP form and process districts/agencies and administrators would lack special education documentation, and teachers and related personnel would be without an individualized instruction document. Further, parents would be without guaranteed input into the educational process and students would be more vulnerable to capricious instruction and inadequate services. Succinctly, the intent of the EHA was to provide administrators with proof of compliance, teachers with formalized plans, parents with a voice, and students with an appropriate education. Thus, the importance of IEPs to children's education cannot be minimized or ignored.

The term "individualized education program" involves several basic concepts:

First, 'individualized' means that the IEP must be addressed to the educational needs of a single child rather than a class or group of children. Second, 'education' means that the IEP is limited to those elements of the child's education that are more specifically special education and related services that are defined by the Act. Third, 'program' means that the IEP is a statement of what will actually be provided to the child, as distinct from a plan which provides guidelines from which a program must

subsequently be developed. (Weintraub, 1977, p. 28)

The IEP for each child must include:

(a) A statement of the child's present levels of educational performance; (b) A statement of annual goals, including short-term instructional objectives; (c) A statement of the specific special education and related services to be provided to the child, and the extent to which the child will be able to participate in regular educational programs; (d) The projected dates for initiation of services and the anticipated duration of the services and; (e) Appropriate objective criteria and evaluation procedures and schedules for determining, on at least an annual basis, whether the short-term instructional objectives are being achieved. (Federal Register, 1977, Sec. 121a.346)

Although the EHA set forth specific components and procedures necessary for developing an IEP, variance in interpretation of the intent of the components and procedures has caused some confusion among special education professionals. Additionally, many practitioners and administrators consider the IEP an obsolete and cumbersome tool with no direct bearing on educational quality (Morgan & Rhode, 1983; Dudley-Marling, 1985; Joseph, Lindgren, Creamer, & Lane, 1983). As a result,

merely filling out and completing the IEP document is considered to be sufficient by some. For others, a completed IEP should be in compliance with the EHA; in addition it should effectively manage and impact students' learning and teachers' teaching. These two interpretations of the intent of the IEP mandate illustrate the contrast between compliance with the EHA and truly meeting the intent and spirit of the EHA, i.e., merely completing the IEP document versus a completed document which is potent, comprehensive, and accurate. Ysseldyke and Algozzine (1982) observed that "the only valid IEP is one that has been carried out and has demonstrated its effectiveness" (p. 234). Thus, an IEP which is procedurally valid and which orchestrates an appropriate education for students with disabilities embraces the intent and spirit of the EHA.

In spite of the resolve of parents, advocacy groups, the courts, and Congress, the IEP has not fulfilled its original intent (Heluk, 1983; Pyecha et al., 1980; Schenck, 1980). An examination of IEP related position papers and research reports during the past decade reveals distinct evolutionary phases of the IEP process and document (cf. Rinaldi, 1976; Schenck, 1980; Schiffman, Tobin, & Cassidy-Bronson, 1982). One might expect educational practices such as individualization of instruction expressed in the

IEP to improve as a consequence of research, however, recent studies (Fiedler & Knight, 1986; Smith & Simpson, 1989) indicate the intent of the EHA is not being operationalized. Thus, a major question can be posed regarding the functioning of IEPs as currently developed by public school professionals.

The IEP, as a process and document, was designed as a vehicle to carry the law's intent of an appropriate education into implementation. Unfortunately, after a decade or more of implementation, discussion, enforcement, and research, this effort at fulfilling the law's intent (exemplary compliance) is mired in acquiescence. Evidence suggests minimal compliance to be the current standard (Brown, 1982; Enell, 1983; Minick & School, 1982; Schiffman et al., 1982). This evidence, which has evolved sequentially in the literature through the years (cf. Rinaldi, 1976; Schenck, 1980; Schiffman et al., 1982), is testimony enough to question the IEP document and process, yet dialogue about the function and effects of IEPs in the field of special education is meager. Despite overwhelming evidence that IEPs have failed to accomplish their mission, little has been done in response.

Actual classroom practice and the IEP are not designed to be mutually exclusive. What is practiced in the classroom should, by the law's intent, be guided by the

IEP. As explained in the Code of Federal Regulations (1986):

There should be a direct relationship between the IEP goals and objectives for a given handicapped child and the goals and objectives that are in the special education instructional plans for the child. However, the IEP is not intended to be detailed enough to be used as an instructional plan. The IEP, through its goals and objectives, (1) sets the general direction to be taken by those who will implement the IEP, and (2) serves as the basis for developing a detailed instructional plan for the child. (p. 84)

The IEP, as EHA's instructional architect, should be an essential component of instructional design and delivery that enhances and accounts for students' learning and teachers' teaching. Yet, data exist to support the contention that IEPs are not functioning as they were designed, including being inept at structuring "specially designed instruction."

#### Statement of the Problem

Past descriptive research has pinpointed inadequacies in IEPs which suggest the intent of the EHA is not being carried out, yet there is a paucity of inferential studies in this area (i.e., studies comparing and contrasting IEPs

of children in different types of special education programs). Because of the distinctive and individualistic nature of IEPs, they serve as a window through which educational services and instructional programs can be viewed. From this perspective, the IEP document serves as a vehicle to compare and contrast educational programs for specific groups of students (e.g., learning disabilities, behavioral disorders) receiving services in different delivery models (e.g., self-contained, resource). Hence, one relevant issue, programming similarities and/or differences for students in various categories and delivery systems, can be addressed through an analysis of IEPs.

The categorization of students and their subsequent assignment to various educational delivery systems implies differential treatment. The assumption of differential treatment based on category and setting has undergone intense scrutiny and discussion (Epps & Tindal, 1987). Thus, professionals in special education have examined student characteristics in different categorical areas and have concluded that more similarities than differences exist (Edgar & Hayden, 1985; Gajar, 1979; Hallahan & Kauffman, 1977; Lilly, 1977; Morsink, Thomas, & Smith-Davis, 1987). Specifically, students with behavioral disorders and learning disabilities exhibit common characteristics along the dimensions of underachievement,

personal adjustment, and adaptive behavior (Hallahan & Kauffman, 1977; Morsink et al., 1987). However, assigning students to various educational delivery systems (i.e., resource, self-contained) may not result in differential and more effective instructional practices (Epps & Tindal, 1987).

To date, few studies have used the IEP to compare and contrast educational programs for various groups of students in special education, nor have IEP studies examined the similarities or differences between different educational delivery services. Thus, data regarding differences or similarities in IEPs of various groups of special education children in different educational delivery systems is lacking. Are there IEP differences between students with behavioral disorders and learning disabilities? Are there IEP differences between students receiving services in self-contained and resource room programs?

#### Purpose of the Study

The purpose of this study was to examine IEPs of fourth, fifth, and sixth grade students with learning disabilities and behavioral disorders in different delivery models (i.e., self-contained, resource) utilizing the PEPSE, the Program Evaluation for Procedural and Substantive Efficacy (Smith, 1987). The PEPSE is an IEP

assessment instrument covering procedural intent and substantive components indicative of special education programming. This investigation was thus designed to compare and contrast instructional programming for students with behavioral disorders and learning disorders in self-contained and resource room programs.

### Research Questions

The primary research question of this study was: Are there similarities and differences in the IEPs of students with behavioral disorders and learning disabilities assigned to self-contained and resource room programs? To address this question seven operative research questions were posed and examined:

1. Are there IEP procedural component differences (i.e., IEP elements and procedures mandated by the EHA) between students with behavioral disorders and learning disabilities?

2. Are there IEP procedural component differences between students in self-contained and resource room programs?

3. Are there IEP substantive component differences (i.e., number and nature of annual goals and short-term objectives met) between students with behavioral disorders and learning disabilities?

4. Are there IEP substantive component differences between students in self-contained and resource room programs?

5. Are there IEP congruence differences (i.e., relationship between present level of performance and IEP annual goals) between students with behavioral disorders and learning disabilities?

6. Are there IEP congruence differences between students in self-contained and resource room programs?

7. Are there statistically significant interactions between students' classification and service delivery for the (a) IEP procedural, (b) IEP substantive, and (c) IEP congruence areas?

## CHAPTER II

### REVIEW OF THE LITERATURE

For the past two decades, legislation has been approved and federal funds allocated to ensure equal access to education for children with unique educational needs. In this regard, the IEP serves to guide, manage, and orchestrate children's educational services and needs. The IEP is special education's document to show evidence of such intent. As an effect, the IEP has been scrutinized and evaluated in the published literature for more than a decade.

Much was written about IEP procedural compliance during the early implementation years of the EHA (e.g., Abeson & Weintraub, 1977; Abeson & Zettel, 1977; Hayes & Higgins, 1978; Morrissey & Safer, 1977). After the law became fully operational, attention focused on IEP procedural correctness (i.e., whether or not the required IEP components were present). In contrast, far less attention has been focused on the question of whether IEPs are different between categorical areas and delivery systems.

The literature clearly reveals that placement options (e.g., self-contained, resource) and categorical areas (e.g., behavioral disorders, learning disabilities) do not appear to be highly related to functional differences in the approach and delivery of instruction

(Blackhurst, McLoughlin, & Price, 1977; Epps & Tindel, 1987; Ysseldyke, 1987). Given the force that the IEP has on a student's educational program, it is evident that an analysis can compare and contrast instructional guidelines based on categorical area and delivery system. Thus, through a comparative analysis of IEPs, differences in planned educational programs between various categories and settings may be found.

The literature is replete with research on IEPs (Comptroller General of the United States, 1981; Dodaro & Salvemini, 1985; Dudley-Marling, 1985; Fiedler & Knight, 1986; Nadler & Shore, 1980; Schenck, 1980; Schenck & Levy, 1979; Smith & Simpson, 1989) yet efforts to synthesize this diverse information have not emerged. This literature review is an effort to show phases of IEP research, thus demonstrating a distinct, evolutionary perspective. Topics presented in this section include: (a) individualized education programs, and (b) related issues and considerations. Moreover, the review will consider the literature pertinent to categorical and service delivery issues.

#### Individualized Education Programs

A review of the literature from 1975 to present reveals contrasting perceptions of IEPs. Data-based research reports and IEP position papers are delineated

into three major phases: (a) a "normative" phase or a period of prescribing IEP norms and standards during which authors described, detailed, and explained, with some underlying proactive concerns, the concepts and provisions of the EHA; (b) an "analytic" phase of IEP inspection specifically attentive to teacher involvement and perceptions of the IEP, parental involvement, and the team approach; and (c) a "technology reaction" phase with attention to finding effective computer-assisted systems to manage the IEP process and documentation.

#### Normative Phase (1975-1981)

Because the EHA was designed to officially enhance and strengthen special education, much information was needed to guide the field due to the law's scope and impact. Thus, the literature in this phase was full of normative articles explaining the nature of the law, how it would affect the education of children with disabilities, and most importantly, how to write and implement the IEP. Countless writings explained the various components of the IEP as well as conditions necessary for implementation (Abeson & Weintraub, 1977; Abeson & Zettel, 1977; Hayes & Higgins, 1978; Morrissey & Safer, 1977; National Advisory Committee on the Handicapped, 1977; Torres & Self, 1976; Turnbull, Strickland, & Hammer, 1978; Weintraub, 1977).

Torres and Self (1976) described the IEP in detail and furthered the distinction of it being a "program" rather than a "plan." In particular, they noted "there currently exists much confusion on the part of well-meaning professionals, parents, and others as to the intent of the law. P.L. 94-142 clearly mandates 'programs' and any attempt to interchange the word 'plan' represents a gross misinterpretation of the law" (p. 67). Torres et al. conclude, "plans suggests a readiness condition; programs require commitments and implementation" (p. 68).

Even though most of these early writings were consistent in their interpretations of the components of the law, some authors believed the task of implementation was more difficult than first assumed (Bersoff & Veltman, 1979; Del Tufo, 1979; Hayes & Higgins, 1978; Lowenthal, 1979; Morrissey & Safer, 1977; National Advisory Committee on the Handicapped, 1977; Rinaldi, 1976; Turnbull et al., 1978). A predominant theme of caution seemed to permeate the early literature; consequently, proactive concerns about the law's effect were widely articulated.

Regarding this proactive posture in the normative literature, Rinaldi (1976) expressed caution about IEP implementation by stating "just about everyone is scared to death of that provision..." (p. 151). Further, Rinaldi listed two concerns: (a) that staff development must occur

first, and (b) that we may end up with paper compliance rather than real or exemplary implementation. The National Advisory Committee on the Handicapped (1977) and Morrissey and Safer (1977) pointed out the potential problems of a multidisciplinary team approach to IEP development. These authors suggest that group variance or multiple interpretations and/or expectations inherent in group functioning potentially subvert the IEP process. As a result, different individuals involved in and/or responsible for the IEP process may have varied opinions about the purpose of the IEP; thus, varied attitudes and influence will impact differently on many aspects of the IEP. Morrissey and Safer point out that "unless such possible differences are resolved, the utility of the IEP as a planning document, as a reflection of program quality, and/or as an instructional guide will be in jeopardy" (1977, p. 34).

Turnbull et al. (1978) cautioned educators that the "I" in IEP should be for "Individualized" not "Impossible." To the extreme, very early in the law's implementation, Ed Martin, then Director of the Bureau of Education for the Handicapped (BEH) was concerned that the federal government may be out of place in requiring IEPs in federal statutes. Accordingly, Martin attributed the IEP controversy to a

"national schizophrenia" demanding less federal involvement, but more enforcement (Postlewaite, 1977).

Interestingly, the early writing on the law and implementation, with the proactive concern by a few authors, was a tea leaf of future research; those very concerns noted in the normative literature (e.g., lack of proper training, paper compliance, group variance, etc.) became the subject of scrutiny by researchers. The results, unfortunately, confirmed these authors' initial concerns (e.g., Bersoff & Veltman, 1979; Del Tufo, 1979; Hayes & Higgins, 1978; Lowenthal, 1979). Compliance issues and issues related to assessment, parent involvement, IEP team process, time demands, preservice and inservice training, were to bring about the next phase of IEP research, the analytic phase, where emphasis was on "state of the practice" rather than normative issues and initial underlying concerns. The IEP process and subsequent document were the scrutinized components of the analytical phase. This analytic phase of IEP research suggests that IEPs have evolved toward, at best, a document exhibiting minimal compliance and away from the "state of the art" intent of the EHA (cf. Heluk, 1983; Pyecha et al., 1980; Schenck, 1980).

#### Analytic Phase (1978-1985)

The EHA had just reached full implementation in 1978

when Schipper and Wilson (1978) reported results of a national study on the EHA, including IEPs, conducted by the National Association of State Directors of Special Education. In general, the study indicated that even highly motivated teachers found it difficult to implement the required changes necessitated by the IEP mandate. They noted that the research findings had been anticipated and were not surprising. Examples included teacher concerns about increased time demands, lack of teacher training, difficulty with the IEP team process, and misunderstandings by teachers and administrators of their roles and responsibilities. Consequently, the recommendations included comprehensive inservice training coupled with planned administrative support.

The IEP document was the subject of several early investigations. Alper (1978) inspected 265 IEPs in California and reported finding poorly written annual goals and short term objectives. Johnson (1979) found 30 to 34% of the IEPs inspected in South Dakota to lack at least one of the nine requirements of the EHA. BEH (1979) reported finding IEPs lacking such basic elements as short term objectives and evaluation methods.

Schenck and Levy (1979) were among the first investigators to analyze a sample of IEPs as to their synthesis of psychoeducational assessment and planned

educational programming. That is, as a result of specifying a student's present level of performance determined by psychoeducational assessment, requisite goals are written. Specifically, Schenck and Levy inspected the present level of performance statements on 300 IEPs and determined their link to the development of annual goals and short term objectives. Over half (64%) of the IEPs in the study did not report current levels of performance, seriously questioning the subsequent development of annual goals and short term objectives. The authors insist that for the provision of specially designed instruction to exist as specified in the law, the diagnostic/instructional link must be apparent. Beyond the "link," 20% of the IEPs did not reveal goals and/or objectives, 18% lacked specific statements of related services, 68% were missing amount of time spent in regular education, and 30% did not report initiation date/duration of services. Further, in only 15% of the cases was the referring teacher involved in the IEP development and the receiving teacher, mostly resource room personnel, was present in only 45% of the cases. Schenck and Levy conclude "there are serious needs that must be addressed by the field of special education" (p. iii).

In a related study, Schenck (1980) investigated 243 IEPs with results similar to Schenck and Levy (1979). Findings of the investigation revealed that annual goals

and short term objectives of the inspected IEPs had limited foundation in psychoeducational assessment. Schenck points out that for an educational program to meet the unique needs of the child it must come from diagnostic assessment which is the unique feature of "specially designed instruction." Schenck also noted that nonincorporation of diagnostic assessment results denies the child "specially designed instruction" without which there can be no special education. To support Schenck's findings, Pyecha et al. (1980) in a nationwide survey of approximately 2500 IEPs, found a significant proportion of the IEPs did not contain the link between needs (determined by diagnostic assessment) and services provided (exemplified by annual goals and short term objectives).

Variability in the way IEPs were being developed nationwide was continuing to be observed during the analytic phase (Marver & David, 1978). Nadler and Shore (1980) interviewed 175 persons directly involved in IEP development in eight school districts and noted various themes. In this study, lack of teacher, parent, and student involvement, lack of training, resources, follow-through, and administrative support were common, as was the case in the normative literature. Thus, one suggestion by Nadler and Shore was for IEP development teams to serve as consultants to teachers whose function then would be to

formulate the IEP. Although in violation of the letter and spirit of the law, their suggested change was a manifestation of dissatisfaction to the components of the law. Administrative support, in this study, ranged from enthusiastic to "blatantly subverting" (p. 33). Because of the necessity of positive administrative support in the IEP process, Nadler and Shore explain that this variable may be the key to successful IEP development and use. It is unlikely, however, with the enormous variance that could be found in an administrative structure, that "across the board" enthusiastic support would exist.

Evidence of IEP anomalies continued to surface during the analytic phase. The Comptroller General of the United States (1981) identified IEPs with missing information, found parents and other local education agency personnel not in attendance at the IEP conference, and a significant number of IEPs were not in force by the October 1, 1977 mandated implementation deadline. McGarry and Finan (1982), in a two year state-wide study, found IEPs to be unrealistically specific to be used by special education personnel. Their recommendation included developing IEPs that are flexible, practical, and useful. Joseph, Lindgren, Creamer, and Lane (1983), in a large district-wide study reported similar results. A general dissatisfaction was evident regarding various aspects of

the present IEP process and format. In addition, the staff in the study felt that the time spent working on the IEP was not worth the effort.

It was also documented during this phase that educational personnel were writing the IEP subsequent to placement, a violation of the EHA (Poland, Thurlow, Ysseldyke, & Mirkin, 1982; Thurlow & Ysseldyke, 1979; Wright, Padilla, Renneker, & Stearns, 1980). In four other studies, IEPs were found to be written before the IEP meeting (Goldstein, Strickland, Turnbull, & Curry, 1980; Marver & David, 1978; Salett & Henderson, 1980; Williams, 1984). Heluk (1983) found improprieties in 276 IEPs, enough to conclude that the legislative intent of the EHA was not effectuated in the inspected IEPs. He further insisted that the IEP, as written, was not the most efficient and appropriate means of providing "specially designed instruction." Even as late as 1985, Scelza (1985) found IEPs in one eastern state were not in compliance with the state's administrative code (which included provisions from the EHA). In a statement to the Subcommittee on Fiscal Affairs and Health, Committee on the District of Columbia-House of Representatives, Dodaro and Salvemini (1985) identified 595 delinquents with identified disabilities, 63% (372) of whom did not have IEPs. In

addition, 73% of the IEPs inspected were not in compliance with education/procedural requirements.

In 1984, Gerardi, Grohe, Benedict, and Coolidge argued that the IEP, after analysis of its implementation, might well be the "single most critical detriment to appropriate programming for these children" (p. 39). While agreeing that the underlying concepts of the IEP are philosophically and educationally sound, Gerardi et al. asserted that the document and its process have created a new bureaucracy within the public schools. Citing problems with the team meeting, parent involvement, time demands, evaluation, and loss of instructional time, Gerardi et al. maintain that the law has had far-reaching consequences on the education of students placed in special education--consequences not always in their best interest. Gerardi et al. believe that the increase in rules and regulations by the EHA has led to less instruction for students and more time in completing forms by teachers.

During this phase, researchers consistently found IEP insufficiencies, contrary to the law's original intention. Concurrent with these studies, researchers broadened the research scope by investigating specific areas related to and underlying the broad IEP concept. The areas of additional study were the assumptions central to IEP generation, special and regular teachers' involvement in

the IEP process, parent involvement, and the functioning of the multidisciplinary team.

Assumptions of IEP development. The IEP, when interpreted as a comprehensive educational planning system, is essentially similar to and a formalization of diagnostic/prescriptive teaching ( i.e., an individualized programming approach) used in special education (Mercer & Mercer, 1981; Morrissey & Safer, 1977). As this is the fundamental premise underlying development and specification of IEP annual goals and short term objectives, this assumption has continually been evaluated during this period of IEP research. The diagnostic or assessment component of this approach to developing IEPs has been scrutinized in the literature (Salvia & Ysseldyke, 1988) and conclusions are not without disagreement.

The valid assessment of students is a fundamental assumption basic to IEP development. Assessment is conducted to identify students in need of special education services and ideally to determine what and how a student should be taught (Blackhurst, 1985, chap. 2; McLoughlin & Lewis, 1986). Yet, problems with assessment (i.e., test administration, scoring, and interpretation) have been noted, with additional concern that the information gathered is not useful in instructional planning (Arter &

Jenkins, 1979; Duffey, Salvia, Tucker, & Ysseldyke, 1981; Thurlow & Ysseldyke, 1979; Ysseldyke & Algozzine, 1982).

Problems are increased when analysis of the information from assessment is improperly conducted (Ysseldyke & Algozzine, 1982). Difficulties with assessment and subsequent analysis together confound the information necessary for building IEPs. Diagnosis (i.e., a label such as behavioral disorder or learning disability), another assumption underlying the IEP, does not adequately support nor provide information for instruction (Salvia & Ysseldyke, 1988). Thus, valid assessment, analysis, and diagnosis are assumptions essential to the IEP, yet there is some question that, even if these assumptions are met, the information fails to facilitate instructional planning. The major assumption underlying the development of IEPs is that assessment, analysis, and diagnosis provide the necessary information for instructional planning. Thus, the IEP, as a blueprint for instruction, is valid to the extent that these assumptions are met (Salvia & Ysseldyke, 1988).

Special education teacher perceptions. Concerns regarding increased workload, excessive paperwork, lack of support, and lack of adequate training as a result of IEP regulations are frequent comments of teachers (Dudley-Marling, 1985; Gerardi et al., 1984; McGarry & Finan, 1982;

Morgan & Rhode, 1983; Nadler & Shore, 1980; Pyecha, Palmour, & Ward, 1980; Schipper & Wilson, 1978). A few studies have measured special education teachers' perception of the IEP's effectiveness on children's learning (Dudley-Marling, 1985; Joseph et al., 1983; Morgan & Rhode, 1983). Specifically, Morgan and Rhode (1983) reported that special educators revealed they could teach and children would learn as effectively without IEPs. Dudley-Marling (1985) concluded that teachers found the IEP not to be useful in planning instruction, and Joseph et al. (1983) found that teachers felt the time spent in preparing IEPs was not worth the effort. In general, however, most of the teacher perception studies did point out that teachers felt that the IEP contributes to an understanding of the child and it could be used as a general reference.

Parent involvement. Central to the spirit of the EHA is parental involvement. Specifically, the notion is that direct parental participation in the educational process can have a positive effect on children's learning. Thus, research has focused on professionals' perceptions of the parental role (Gilliam & Coleman, 1981; Yoshida, Fenton, Maxwell, & Kaufman, 1978), parents' actual role (Gilliam, 1979; Goldstein et al., 1980; Skrtic, Guba, & Knowlton, 1985; Traylor, 1982), and parents' perception of their role in the IEP conference (Lusthaus, Lusthaus, & Gibbs, 1981).

Generally, the results of these studies indicate little interaction by parents when they attend the IEP meeting, with parents' role perceived by school professionals as recipients of information. Despite this passive role, parents have generally been satisfied with the IEP conference and outcomes (Goldstein et al., 1980; Goldstein & Turnbull, 1982; Polifka, 1981; Witt, Miller, McIntyre, & Smith, 1984).

Multidisciplinary or team approach. The function of the multidisciplinary IEP team or committee is to formulate assessment data into a comprehensive planning system facilitating the delivery of educational services to students. In essence, the team approach implies that a combination of personnel guarantees an efficient and effective IEP. As it functions, however, it raises questions as to the efficacy of such an approach (Crisler, 1979; Kehle & Guidubaldi, 1980). As Crisler points out, "the team process is a more difficult area in which to try to implement a practical, yet efficient, means of integrating the efforts of the variety of personnel and specialists necessary to meet fully the mandate of the law" (p. 102).

The use of a multiplicity of views and expertise by school professionals in developing an appropriate IEP is based on a rational assumption rather than an empirical

base (Crisler, 1979; Kehle & Guidubaldi, 1980). The use of extensive systematic inquiry (i.e., research) resulting in definitive acceptance was not used to establish the team approach concept in the development of the IEP. In other words, these authors (i.e., Crisler, Kehle & Guidubaldi) agree that the team approach was reasonable, yet argue that it was untested as to its efficacy. Crisler reports that the team concept has been in the literature for years and is widely advocated, yet a fundamental problem exists. As Crisler points out, there is no systematic training process for school personnel who must integrate their skill with others of different expertise and into a comprehensive educational plan. For example, how do teachers, administrators, school psychologists, and others integrate their knowledge and skills to provide individualized instruction without adequate training?

Beyond the skills necessary for proper functioning of the IEP committee, attendance is obviously crucial. If teachers, administrators, parents, and/or others are not in attendance at the meeting, the law's intent is not fulfilled. Studies have consistently found key personnel missing from the IEP committee meeting, thus hampering its functioning (Comptroller General of the United States, 1981; Scanlon, Arick, & Phelps, 1981; Scelza, 1985; Smith & Simpson, 1989).

In a qualitative study of five rural, multidistrict special education service agencies, Skrtic, et al. (1985) found variations in the team process due to several factors: (a) scheduling, (b) time demands, (c) parent apprehension, and (d) professional embarrassment if they were to disagree during the IEP meeting. As a result, Skrtic et al. noted that variations in the IEP team meeting within these rural cooperatives have evolved. In one cooperative, pre-staffings are often held, sans parent, to reach a common decision before the formal staffing with parent. In another cooperative the team meetings are divided into segments, the procedures of which are contrary to legislative intent, while another cooperatives' team meeting spells out a total service plan and designates a special education teacher to write the IEP. These variations work to ease scheduling, decrease time demands, separate decision making from the parent, and shift the responsibility to the special educator for IEP development. Apparently, within these rural settings, special education cooperatives simply adjust their mandated activities away from the original intent of the law as a response to regulations.

Regular education teacher as IEP team participant.

The importance of regular education teachers in the IEP process was recognized as early as 1977 (National Advisory

Committee on the Handicapped). It is likely that most students with mild disabilities are assigned to the regular classroom for some part of the school day (Fiscus & Mandell, 1983; Rucker & Vautour, 1978). Because studies in this area have been few and scattered, the importance of the regular educator in the IEP process has not been realized. Ysseldyke, Algozzine, and Allen (1982) concluded from a study of IEP team meetings that regular and special teachers do not interact or do so in a superficial manner. Gilliam and Coleman (1981) found that regular education teachers were ranked high by IEP meeting participants as important to the team meeting, but low in actual contribution and influence. Pugach (1982) states that a majority of 39 regular classroom teachers who were responsible for serving at least one child with a disability in their classroom during the school day were not systematically involved in developing IEPs. Pugach argues that "it is unlikely that this approach promotes shared decision making or encourages consistent curricular modifications across instructional settings" (p. 374). In a study involving 100 students' IEPs, Nevin, Semmel, and McCann (1983) found regular educators, who were assigned one or more of the students, were minimally involved in the IEP process. Nevin et al. point out that if modifications in the regular program are delineated in the IEP, then the

regular teachers' role is more clearly defined and more frequently implemented. If no such modifications exist in the document, then the regular teachers' role in the IEP process is amorphous.

Although the analytic phase and its categories of IEP research have spawned numerous studies of the IEP document and its process, very little has been done to bring about change. Recommendations provided by the analytic researchers include more inservice, better preservice, and more enforcement. Yet, it is uncertain that these recommendations resulted in IEP improvements.

#### Technology Reaction Phase (1981-1988)

It is well documented that computer managed instruction (CMI) or those educational management systems utilizing computer software to manage the IEP are in response to relieving the burden of paperwork and cost created by the EHA mandate (Brown, 1982; Enell, 1983; Minick & School, 1982; Schiffman et al., 1982). Enell (1983) developed a handbook on how to streamline IEPs. Enell and Barrick (1983) examined computer systems used in writing IEPs in California. Results included more satisfaction with IEPs by parents, teachers, and administrators, a decrease in paperwork for teachers, and less time and money spent on IEP generation. Time savings, cost effectiveness, and positive teacher attitude were

reported to be the results of many studies (Davis, 1985; Enell, 1984; Fetterman, 1985; Jenkins, 1987; Kellogg, 1983, 1984; Ryan, 1984; Ryan & Rucker, 1986).

To illustrate the costs associated with IEP development, Lillie (1983) indicates that "a school system with 1000 identified exceptional children is spending \$100,000 per year in teacher time alone to generate IEPs (p. 2). Lillie's estimate is based on a study by Price and Goodman (1980) who examined the costs associated with the development of IEPs in Pennsylvania. The average cost to develop an IEP in the Price and Goodman study was \$66.81 with ranges from \$25.35 to \$193.62. Considering the additional costs and time involved to produce IEPs, the use of a computer-assisted IEP seems a reasonable response. Even though the issues of cost and time can be managed effectively by computer-assisted IEPs, as reported in the literature, the issue of a quality IEP is infrequently mentioned during the technology reaction phase.

In particular, Enell (1983) suggested ways to reduce the IEP paperwork burden by using computers, such as preselecting goal areas and possible objectives in advance of the IEP meeting. Kellogg (1983, 1984) described computerized IEP systems designed to save time and reduce costs associated with IEP development. Ryan and Rucker (1986) compared computerized and noncomputerized IEPs in 12

school districts in Massachusetts, concluding that computer assisted IEPs took less time, cost less to develop, and teachers had a more favorable attitude toward the IEP process.

The technology reaction phase is important to analyze because the focal point of research during this period is away from the original spirit and intent of the EHA; there is a shift from quality of the IEP as an issue in the analytic phase (exemplary compliance) to reducing the cost and time necessary to complete IEPs (minimal compliance) by computer assistance. Completing the IEP process and document in less time with less costs resulting in more favorable attitudes by teachers towards the IEP is needed, yet the reason for the shift from developing quality IEPs to aiding the completion of the document remains conjecture.

#### Related Issues and Considerations

Historically, the special education paradigm functioned by dividing students into distinct groups (e.g., learning disabilities, behavioral disorders) and delivering treatment through instruction outside the regular classroom. The fundamental assumption was that distinct groups of students benefit from differential instruction in alternative settings. Logically, then, differences in student IEPs from distinct categorical groups in various

educational settings will be found. Research, however, indicates that actual classroom instruction (which should be guided by the components of the IEP) is similar despite categorical placement and setting. Thus, an examination of IEPs is needed to determine whether planned instructional similarities or differences exist between students in different categorical areas and delivery systems.

There is enough evidence in the research literature to question the efficacy of differential instruction based on categorical placement of students in special education (Edgar & Hayden, 1985; Gajar, 1979; Gardner, 1977; Hallahan & Kauffman, 1976; Hallahan & Kauffman, 1977; Hewett & Forness, 1974; Morsink et al., 1987; Lilly, 1979). In addition, Epps and Tindel (1987) provide an exhaustive review indicating that assignment to various educational delivery systems may not result in differential and more effective instructional practices.

Hallahan and Kauffman (1977) provided a historical review of the research literature finding an overlap of behavioral characteristics among learning disabilities, mild emotional disorders/behavioral disorders, and mild mental retardation. These authors suggest an overlap of characteristics in three areas: personality and social adjustment, cognition, and underachievement. As a result of their review, Hallahan and Kauffman argue that little

evidence is available to support categorizing children (e.g., learning disabilities, behavioral disorders) for purposes of educational instruction. These authors conclude that the likelihood of common characteristics imply that teachers of students with learning disabilities are not likely to approach their children any differently than teachers of students with behavioral disorders.

Gajar (1979) observed results similar to Hallahan and Kauffman (1977). Although differences between categorical areas were found in this study, Gajar found groups with learning disabilities were similar to groups with behavioral disorders in a number of areas. Specifically, Gajar found three areas of commonality: each group's IQ score was below the population norm, each group exhibited underachievement in reading, spelling, and arithmetic, and each group indicated high ratings on the Quay-Peterson Behavior Checklist's immaturity-inadequacy factor.

In a recent review, Morsink et al. (1987) described similarities of student characteristics, yet argue for further study before conclusive recommendations are made. These authors summarize research on effective teaching suggesting that similar methods have been used successfully with students in both categorical areas (i.e., learning disabilities, behavioral disorders).

Morsink (1984) reviewed 27 chapters of major books written between 1974 and 1984, finding special education professionals recommending educational practices commensurate to children's behavior rather than categorical area. Generally, Morsink found professionals suggested academic instruction for special education students with academic deficits, behavior management for those students with behavior problems, and that students with learning disabilities and behavior disorders need more instruction with concrete materials, more practice, and more specific feedback to learn. Morsink et al. (1987) concluded:

The consensus seemed to be that, for mildly handicapped (as opposed to moderately or severely retarded, disabled, or disturbed) students, methods could not be prescribed by category, and that effectiveness could only be determined by initially matching teaching strategies to learner strengths and weaknesses and then using continuous measurement systems. (p. 288)

Obvious questions emerged as to the efficacy of differential instruction for students in the context of their classification and educational setting. Yet, these questions and subsequent research focused on program outcome (e.g., test scores, behavior checklists, classroom observations, etc.) vis-a-vis differential instructional

activities in various settings (Carlberg & Kavale, 1980; Leinhardt & Pally, 1982). To date, little is known about the a priori instructional components found in the IEP for students differentially categorized in various settings. Thus, questions remain as to IEP differences of planned educational programs for various groups of special education students in different delivery systems. Do student IEPs differ by virtue of differential grouping and setting? This question focuses on whether or not IEPs reflect planned educational services and instruction as an outcome of their classification and setting.

Because IEP instructional programming can be found in the form of individualized annual goals and short term instructional objectives, similarities and/or differences of planned programming between special education categorical areas and delivery systems can be examined. Annual goals, determined by a multidisciplinary team, provide teachers with a blueprint to guide classroom instruction and management. Logically, through the IEP's goals and objectives, a student's general educational direction is outlined serving as the basis for developing a detailed instructional plan.

As an effort to compare and examine the IEP's planned educational programming as opposed to actual classroom instruction, McBride and Forgnone (1985) assessed 90 IEPs

of students with mild handicaps placed in categorical and noncategorical programs. This study inspected the types of instruction to be presented to students (i.e., IEP short term instructional objectives) rather than the instruction they actually received. In contrast to past research describing the similarities of students placed in different categorical areas, these authors found varying numbers of objectives developed by teachers for students in different categorical areas. For example, teachers of students with mild emotional handicaps wrote more behavioral objectives than teachers of students with learning disabilities. Also, teachers of learning disabilities wrote more academic goals for their students than teachers of mild emotional handicaps. Thus, some differences exist in the literature, albeit inconclusive, between what is planned for students in the IEP and what the student receives as educational instruction.

An observation of teaching activities in emotionally handicapped, learning disabled, and educable mentally retarded classrooms was conducted by Algozzine, Morsink, and Algozzine (1988) to illustrate and compare the nature of classroom instruction in different categorical areas. Algozzine et al. indicated that the 40 teachers in self-contained special classes in the study "were not performing differently relative to the type of student in their self-

contained special classrooms" (p. 263). Further, these researchers concluded that the information gathered did not support the notion of differentiated instruction based on placement in different categorical areas.

Past reviews and research have argued for special education placement and subsequent educational programming to be determined by a behavioral framework rather than a categorical one (Morsink, 1984; Morsink et al., 1987). One component of this study is to examine similarities or differences of instructional programming in IEPs written for students with behavioral disorders and learning disabilities in self-contained and resource room settings.

#### Summary

Although the EHA provides a definition of what constitutes an IEP, the original intent was to provide an instrument for teachers, parents, and students which could facilitate quality education based on individual differences. Considering the issue of how best to help educationally unique children, the IEP is special education's document to show evidence of such intent. Educators and researchers throughout the years have scrutinized the quality of the IEP document, its generation, and its subsequent substantive health. The EHA has authoritatively assigned to professionals in the field of special education a formidable task.

The current literature review has described distinct phases of IEP research and development revealing an evolution of positions on IEPs. The normative phase of the IEP literature was mostly informative, providing special educators with details of the EHA and most importantly, information on how to write and implement an IEP. The analytic phase studied the actual functioning of IEPs after implementation and provided recommendations to remediate inadequacies. Within this analytic phase, subcategories of research interest such as assumptions underlying IEP development, special and regular teacher participation and perceptions of the IEP process, parent involvement, and the multidisciplinary or team approach to IEP development were presented.

The analytic phase of investigation into qualitative aspects of IEPs was followed by the present day technology reaction phase. During this phase, the use of computer-assisted IEPs by school district personnel was a response to burdens of time, effort, and cost of IEP development, created by the EHA. During this phase, very little interest has been shown in IEP quality.

In addition, the present review included research about characteristic and instructional similarities and/or differences of students with learning disabilities and behavioral disorders. Succinctly, the literature suggests

that educational instruction is similar for these students despite categorical placement, yet IEP instructional planning may be different for categorical areas. This literature was presented to provide rationale for the comparison of IEP annual goals written for students with learning disabilities and behavioral disorders in self-contained and resource service delivery.

The literature reviewed has provided a basis for this study, i.e., an investigation of IEPs of public school students with behavioral disorders and learning disabilities assigned to self-contained and resource rooms. Specifically, the proposed study will attempt to assess IEPs for quality, similarities and/or differences of instructional programming, as well as lawful compliance with the IEP components outlined in the EHA.

## Chapter III

### METHOD

The purpose of this study was to investigate IEPs of fourth, fifth, and sixth grade male students with behavioral disorders and learning disabilities assigned to self-contained and resource room settings. Analysis was conducted via the PEPSE, an instrument designed to assess (a) IEP procedural components mandated by the EHA, (b) IEP substantive content (i.e., the number of annual goals and short-term objectives met) and (c) IEP congruency of assessed needs and written annual goals.

#### Subjects

##### Selection of Subject IEPs

The IEPs of 120 male Kansas special education students (grades 4-6) were selected for the investigation. Four groups comprised the study sample: (a) IEPs of students with behavioral disorders assigned to self-contained special education classrooms; (b) IEPs of students with behavioral disorders receiving instruction in a resource room setting; (c) IEPs of students with learning disabilities assigned to a self-contained classroom; and (d) IEPs of students with learning disabilities receiving special education services in a resource room setting. Criterion for IEP eligibility (i.e., diagnosis of learning disabilities or behavioral

disorders and placement in a self-contained or resource room setting) was based on the most recent official student list maintained by participating school districts and cooperatives. A summary of the number and percentages of sample IEPs by grade, category, and delivery model is presented in Table 1.

Representatives of the unified school districts and special education cooperatives (i.e., two or more school districts entering into an agreement to provide special education services on a shared-cost basis) participating in the study were contacted by phone to explain the nature and purpose of the study and to request their cooperation. Once formal approval to conduct research was granted, IEPs were sampled systematically (Glasnapp & Poggio, 1985). That is, selecting every  $i$ th IEP of a population until the desired sample size was selected. For example, every fifth student's IEP was selected from the list provided by the districts/cooperatives.

The systematic sampling process was accomplished by a three-step procedure. First, district/cooperative directors of special education were asked to provide the total number of students in each of the four groups selected for the study. Second, when the sum of each group was known ( $N$ ), it was divided by ( $n$ ), the desired sample size. This established the sampling interval ( $i$ th)

TABLE 1  
NUMBER OF IEPS BY GRADE, CATEGORY, AND DELIVERY MODEL

Grade	Category and Delivery				
	BD		LD		TOTAL
	R	SC	R	SC	
4	10	13	12	17	
	8.33	10.83	10.00	14.17	43.33
	19.23	25.00	23.08	32.69	
	33.33	43.33	40.00	56.67	
5	10	6	9	10	35
	8.33	5.00	7.50	8.33	29.17
	28.57	17.14	25.71	28.57	
	33.33	20.00	30.00	33.33	
6	10	11	9	3	33
	8.33	9.17	7.50	2.50	27.50
	30.30	33.33	27.27	9.09	
	33.33	36.67	30.00	10.00	
TOTAL	30	30	30	30	120
	25.00	25.00	25.00	25.00	100.00

**Note:** Numbers in each cell are from top to bottom: frequency, percent, row percent, and column percent. BD = Behavioral Disorder; LD = Learning Disability; R = Resource; SC = Self-Contained.

for each of the sample groups. Third, a starting point selected at random was chosen to ensure that every student's IEP had an equal opportunity to be included in the selection. Thus, the sampling interval with a random start was used to complete the IEP selection at each district/cooperative administrative office. By selecting the sample at the district/cooperative administrative office, the investigator accessed student lists under the supervision of district/cooperative administrative personnel. On-site selection, then, ensured student and parent confidentiality.

At the inception of the study, it was estimated that large numbers of student IEPs would be available, yet a resource room model for students with behavioral disorders (grades 4-6) was not available in the participating districts/cooperatives. Because of this paucity of student IEPs, seven rural special education cooperatives were added to generate an adequate sample.

The IEPs selected for the study (i.e., those systematically selected from the population in the designated districts/cooperatives) were those of students who had been diagnosed as behaviorally disordered or learning disabled by a multidisciplinary professional team. These IEPs were of students who exhibited behavioral disorders or learning disabilities as their

primary exceptionality. Socio-economic level, IQ, and parents' educational level of students whose IEPs were examined were assumed to be equally distributed based on the randomization process. Programs from which IEPs were drawn were staffed by full-time teachers certified or provisionally certified to instruct students with behavioral disorders and/or learning disabilities.

Students with behavioral disorders. The IEPs selected for this group were written for students who had been diagnosed as behaviorally disordered by a multidisciplinary professional team and who exhibited behavioral disorders as their primary exceptionality. The IEPs selected were written for students who exhibited socially unacceptable behavior (a) at a much higher or lower rate than is age appropriate; (b) over an extended period of time in different environments (e.g., within the school, home, community); and (c) which consistently interfered with their educational performance. Further, the IEPs selected from this category were of students who demonstrated a variety of behaviors which interfered with their learning appropriate academic and other skills, including inappropriate, aggressive or impulsive behavior; pervasive moods of anxiety, depression, passivity, or withdrawn behavior; inability to build or maintain satisfactory interpersonal relationships; and unreasonable

fears and physical symptoms. No IEPs of students with autism were selected.

Students with learning disabilities. The IEPs selected for this group were written for students who had been diagnosed as learning disabled by a multidisciplinary professional team and who exhibited learning disabilities as their primary exceptionality. The IEPs selected were of students who were unable to learn effectively with respect to their potential in a regular classroom environment. Students whose IEPs were selected exhibited an inability to receive, organize, or express information demonstrated by a significant discrepancy between aptitude and achievement in one or more of the following areas: (a) reading, mathematics, written and spoken language, and listening comprehension. This discrepancy was not a function of learning problems attributable to visual, auditory, or motor handicaps, or mental retardation, or of any discernible environmental, cultural, or economic disadvantage.

#### School and Delivery System Characteristics

##### School District/Special Education Cooperatives

The sample of student IEPs was drawn from two urban school districts, one large suburban/rural special education cooperative near a metropolitan area, one suburban school district, and seven rural cooperatives.

Thus, eleven school districts/cooperatives were selected in order to match Kansas demographics adequately. Table 2 provides a summary of IEPs selected from participating districts/cooperatives.

The two urban districts (districts with more than 10,000 students) participating in the study represented a full range of socioeconomic levels characterized by inner-city to upper-middle class neighborhoods. Typical of one district was a high percentage of minority residents engaged in mostly factory and service-oriented employment earning low to average incomes. In contrast, the second urban district averaged less minority residents with more professional and state government employment opportunities.

The large suburban/rural cooperative participating in the study included mostly white, middle to upper-middle class residents in close proximity to a large metropolitan area. The suburban school district contained two distinct, mostly white sections: a professional, high income area, and a high to average income rural area.

The seven rural special education cooperatives encompassed large agricultural and farming areas whose residents earned from low to middle class incomes. Approximately 60% or more of the population resided in or near communities no larger than 500 inhabitants.

TABLE 2

SUMMARY OF SAMPLE SIZE AND PERCENTAGES IN EACH DISTRICT/COOPERATIVE BY  
CATEGORY AND DELIVERY MODEL

District/Cooperative	BD				LD			
	R		SC		R		SC	
	n	%	n	%	n	%	n	%
Urban (n = 2)	0	0	21	.70	8	.27	24	.80
Suburban (n = 1)	0	0	2	.06	6	.20	3	.10
Suburban/Rural (n = 1)	0	0	7	.23	16	.53	3	.10
Rural (n = 7)	30	100	-	-	-	-	-	-
Totals	30	100	30	100	30	100	30	100

Note: BD = Behavioral Disorder; LD = Learning Disability; R = Resource; SC = Self-Contained.

## Delivery System Characteristics

For purpose of this study, IEPs of students assigned to self-contained and resource room learning environments were selected. Descriptions of these settings, as per Kansas Administrative Regulations (K. A. R.) 91-12-22(d) are provided below.

Self-contained delivery system. Self-contained or special classes are designed for those students who need sustained, full-time special education placement. The students assigned to self-contained special classrooms may still have the opportunity to interact with nonhandicapped students at lunch, recess, art, and/or music. For State purposes, self-contained classroom:

means a plan for the delivery of special education services under which exceptional children are assigned to a special education class, but may receive some academic instruction in regular education classes. The special education teacher shall be responsible for monitoring the progress of the exceptional children in regular education classes and for providing appropriate support. (K. A. R. 91-12-22 (mm) )

Resource room delivery system. The resource room is designed as an instructional setting for special education students in a regular education classroom, where the

student can go for specific educational instruction for brief periods of time. Thus, the intent of the resource room is to provide supportive assistance to special education students in regular classrooms. The resource room plan:

means a plan for the delivery of special education services under which exceptional children are enrolled in a regular education program, but go to a specially equipped room to receive special education services from a special teacher. The special resource room teacher shall be responsible not only for the resource room, but also for maintaining communication with the regular classroom teacher or teachers of the exceptional children. (K. A. R. 91-12-22(ff))

#### Instrument

The Program Evaluation for Procedural and Substantive Efficacy (PEPSE) (Smith, 1987) was used to assess IEPs. The PEPSE is an IEP assessment instrument covering procedural intent and substantive components indicative of quality special education programming. Developed to undertake a study of IEPs for students with behavioral disorders (Smith & Simpson, 1989), the PEPSE was used to assess (a) procedural compliance, (b) substantive content, and (c) congruence.

Procedural compliance dealt with the presence of IEP elements and procedures mandated by the EHA. Factors assessed within the procedural domain were: present level of educational performance; educational services, including related services; initiation dates and duration of services; extent of regular education participation; individuals responsible for IEP implementation; annual goals; short-term objectives, including evaluation criteria; parent involvement; and IEP meeting participants.

Analysis of substantive content, in turn, focused on the number of annual goals and the number of short-term objectives met. Annual goals and objectives were categorized as academic (e.g., reading, spelling), behavior (e.g., overt behavior, social /emotional), and other (e.g., speech/language, self-help, vocational, psycho-motor).

Congruence between students' performance level and annual goals was also assessed. Overt behavior, social/emotional, academic, and other (e.g., self-help, psycho-motor, environmental, and speech/language) were evaluated relative to their translation as IEP annual goals. Lack of congruence in the above areas was noted when performance level information failed to reveal a need but an annual goal was written, or when performance level information revealed a need in the absence of an annual goal statement. For example, if the present level of

performance section of the IEP identified physical aggression as an area of concern but an annual goal for aggression was missing an incongruency would be noted.

The PEPSE was developed in accordance with provisions of EHA (1975), as amended, and its implementation regulations (i.e., Code of Federal Regulations). Items relating to procedural compliance are those required for federal and state compliance. Thus, an "item found"/"item not found" format was used to determine whether required IEP components were present (e.g., present level of performance, IEP meeting participants, annual goals, short-term objectives).

Substantive content items included the number of annual goals and completed short-term objectives. The underlying assumption in developing this section of the PEPSE was that students with behavioral disorders and learning disabilities have multiple needs which should be reflected by multiple IEP goals; and that one indication of program quality was successful achievement of IEP short-term objectives.

PEPSE congruence items were developed in accordance with the notion that a clear relationship should exist between students' needs and their IEP. Accordingly, this section was designed to assess congruence between performance level information and IEP goals within the areas of overt and

social/emotional behavior, academics, and other. This element of the PEPSE used a formula similar to Fiedler and Knight (1986), i.e., congruence in the IEP between level of performance and goals and objectives.

The PEPSE was subjected to field testing to ascertain that items and content were accurate, explicit, and clear interpretations of EHA. Special education doctoral students and faculty from the University of Kansas independently evaluated items for clarity and accuracy of content (i.e., items were consistent with EHA). The PEPSE does not have norms; however, since its items are drawn directly from EHA or involve an assessment of annual goal frequency and short-term objectives met, it is assumed to have content validity. As reported in one study (Smith & Simpson, 1989), the PEPSE had an overall reliability of 91%. A copy of the PEPSE is provided in Appendix A.

#### Procedures

The investigator scheduled on-site visits at each district/cooperative to assess IEPs during a four week period. Directors of special education were asked, in advance, to assemble the selected IEPs at the district/cooperative administrative office for inspection. Each IEP was assessed using the PEPSE.

The investigator familiarized himself with the unique IEP features of each of the research sites, including the

forms used by each program. In addition, nuances associated with each program's IEP procedures and forms were noted prior to assessing individual IEPs. These activities were undertaken to facilitate coding consistency. During the actual assessment, clarification of information from school personnel (i.e., those items written into the IEP) was not attempted; only questions pertaining to the form itself (i.e., those questions clarifying understanding of the IEP form supplied by the district or cooperative) were attempted. For example, clarifications or questions pertaining to the structure of the IEP were sought; however, interpretation of information generated by the IEP teams (e.g., the meaning of short-term objectives, or information in the present level of performance) was not. Only teachers' copies (i.e., working copies teachers had in their classrooms) were used. Each IEP took approximately 15 minutes to assess.

The investigator developed the PEPSE for use in previous studies (Smith, 1987; Smith & Simpson, 1989) and, thus, was familiar with its procedures and application. After all the IEPs were assessed, the data from the PEPSE were entered into a computer system for analysis.

#### Interrater Reliability

Interrater reliability was calculated by comparing

the investigator's PEPSE ratings with those of an independent evaluator. IEP analysis training consisted of familiarizing the independent evaluator with the PEPSE instrument by analyzing IEPs not included in the study. The independent evaluator, then, assessed 10% of randomly drawn IEPs. Reliability was calculated by dividing the number of observer agreements by the number of agreements and disagreements. Overall reliability was .95. Interrater agreement for procedural and substantive components was .96 and .97 respectively, while congruence reliability was .86. The lower interrater agreement for congruence may have been a function of the number of interpretations required in making judgments of performance level information and the nature of annual goals.

#### Research Design

This study was ex post facto in design under the rubric of quasi-experimental research. No control group (those without IEPs) was used to compare effects. A statistical factorial design ( i.e., two independent variables with two conditions) was used for analytical comparisons.

#### Variables

The independent variables were categorical area (i.e., behavioral disorder, learning disability) and

delivery system (i.e., self-contained, resource). The dependent variables were the data gathered by use of the PEPSE: (a) procedural (dichotomous categorical), (b) substantive (continuous), and (c) congruence (dichotomous categorical). Although the procedural and congruence components by themselves constitute dichotomous variables, a summing of the parts of each area resulted in continuous data. Thus, the total sum of parts constituted a continuous dependent variable.

### Hypotheses

The hypotheses of the study are listed below.

1. There are no statistically significant mean differences in the number of procedural components, as measured by the PEPSE, between IEPs written for students with behavioral disorders and learning disabilities.

2. There are no statistically significant mean differences in the number of procedural components, as measured by the PEPSE, between IEPs written for students in self-contained and resource delivery models.

3. There are no statistically significant mean differences in the number of substantive components, as measured by the PEPSE, between IEPs written for students with behavioral disorders and learning disabilities.

4. There are no statistically significant mean differences in the number of substantive components, as

measured by the PEPSE, between IEPs written for students in self-contained and resource delivery models.

5. There are no statistically significant mean differences in congruence, as measured by the PEPSE, between IEPs written for students with behavioral disorders and learning disabilities.

6. There are no statistically significant mean differences in congruence, as measured by the PEPSE, between IEPs written for students in self-contained and resource delivery models.

7. There is no statistically significant interaction between IEPs written for students with behavioral disorders and learning disabilities in self-contained and resource delivery models for the (a) procedural, (b) substantive, and (c) congruence area, as measured by the PEPSE.

### Data Analysis

Data were coded for purposes of recording and analysis. Subsequent to data entry, appropriate univariate statistics (2 x 2 factorial analysis of variance and 2 x 2 x 3 factorial analysis of variance with repeated measures) were used to test the aforementioned a priori hypotheses. Descriptive procedures (e.g., mean, percent, standard deviation, etc.) were also used to analyze data. Coded data were entered into an IBM 3031 AP

and Digital Equipment Corporation VAX 8650 mainframe computer system using BMDP and SAS statistical packages. All data entries were reviewed by a research assistant to ensure accuracy.

Procedural. A 2 x 2 factorial analysis of variance procedure was used to evaluate IEPs for procedural compliance. The independent variables included two diagnostic levels (i.e., behavioral disorders, learning disabilities) and two delivery system levels (i.e., self-contained, resource). For this analysis, the dependent variable was a summation of the number of IEP elements and procedures mandated by the EHA in the inspected IEPs. Specifically, the procedural items were: (a) present level of performance, (b) related services, (c) initiation date and duration of services, (d) regular academic placement, (e) physical education, (f) list of individuals responsible for implementation, (g) annual goals, (h) short-term objectives, (i) criteria, evaluation procedures, and projected completion dates of short-term objectives, (j) signature of representative of the district/cooperative, other than the child's teacher, (k) signature of the child's teacher, (l) signature of parent, and (m) evidence of annual review. A Duncan Multiple Comparison Test (Keppel, 1982), then, was used to compare

all possible pairs of procedural means to determine which differences were significant.

Substantive. A 2 x 2 x 3 factorial analysis of variance with repeated measures was used to evaluate IEP substantive content data (i.e., number of annual goals and number of short-term objectives met). The independent variables were categorical area, delivery system, and three repeated areas of instructional content (i.e., academics, behavior, and other). The dependent variable was a summation of the number of annual goals and short-term objectives met in each of the three programming areas. A Duncan Multiple Comparison Test (Keppel, 1982) was used to compare all possible pairs of means for annual goals and short-term objectives met to determine which differences were significant.

Congruence. A 2 x 2 factorial analysis of variance procedure was used to evaluate IEP congruence (i.e., the match between present level of performance information and annual goals). The independent variables were categorical area and delivery system. The dependent variable was the percent congruent (i.e., the number of congruencies divided by the sum of congruencies and incongruencies). A Duncan Multiple Comparison Test (Keppel, 1982) was used to compare all possible pairs of congruency means to determine which differences were significant.

Subsequent to the congruence analysis, data were gathered regarding the nature of incongruencies (i.e., whether the annual goal or present level of performance information was missing). A total of six Chi-square analyses in the behavior, social/emotional, and academic areas were conducted to ascertain differences in incongruencies by category and delivery system.

## Chapter IV

### RESULTS

This study compared IEPs of students with behavioral disorders and learning disabilities in self-contained and resource room settings. Thus, an attempt was made to answer the following question: Do student IEPs differ by virtue of differential placement or classification? Specifically, this question focused on whether IEPs reflect differences in student classification and delivery system assignment. The procedure used in the study involved assessing IEPs for quality, similarities and/or differences of instructional programming, and compliance with the IEP components outlined in the EHA. Data were gathered by use of the Program Evaluation for Procedural and Substantive Efficacy (PEPSE) (Smith, 1987).

A 2 x 2 analysis of variance and a 2 x 2 x 3 analysis of variance with repeated measures were used to test research questions and hypotheses stated in Chapters I and III. Prior to analyzing the data, the .05 level of statistical significance was selected as being sufficient for rejecting null hypotheses. Additional Chi-square analyses were conducted to determine differences of IEP incongruencies in categorical areas and delivery systems. Descriptive procedures (e.g., mean, percent, standard deviation) were also used to detail and supplement

analyses. The procedural, substantive, and congruence findings which follow are the result of testing the stated a priori hypotheses.

### Procedural Findings

Results included in this section addressed procedural compliance, that is, the presence of 13 IEP elements and procedures mandated by the EHA.

### Hypotheses

The hypotheses pertaining to procedural compliance were stated as follows:

Hypothesis 1. There are no statistically significant mean differences in the number of procedural components, as measured by the PEPSE, between IEPs written for students with behavioral disorders and learning disabilities.

Hypothesis 2. There are no statistically significant mean differences in the number of procedural components, as measured by the PEPSE, between IEPs written for students in self-contained and resource delivery models.

Hypothesis 7(a). There is no statistically significant interaction of procedural component means between IEPs written for students with behavioral disorders and learning disabilities in self-contained and resource delivery models for the procedural area, as measured by the PEPSE.

Relative to procedural comparisons, a 2 x 2 analysis of variance procedure was used to test for mean differences between category, delivery model, and category by delivery. No statistically significant main effect differences were found for category  $F(1, 116) = 3.86, p = .052$  or delivery system  $F(1, 116) = .01, p = .942$ . A statistically significant interaction effect was found  $F(1, 116) = 4.45, p = .037$ , which indicated that one independent variable was not the same at different levels of the second independent variable. Results of the procedural analysis of variance comparisons are presented in Table 3.

TABLE 3

SUMMARY OF ANALYSIS OF VARIANCE (PROCEDURAL)

Source	df	SS	MS	F	P
Category (BD,LD)	1	6.07	6.07	3.86	.052
Delivery (SC,R)	1	.00	.00	.01	.942
Category by Delivery	1	7.00	7.00	4.45	.037*
Error	116	182.50	1.58		
Total	119	195.60			

Note: BD = Behavioral Disorder; LD = Learning Disability; SC = Self-Contained; R = Resource.  $p < .05$

A Duncan Multiple Comparison Test (Keppel, 1982) was conducted to determine the source of the significant

interaction (i.e., to establish significant differences between pairs of means). The results of the Duncan Test, as shown in Table 4, indicated that IEPs of students assigned to learning disability resource rooms ( $M = 12.17$ ) differed significantly from their peers' IEPs in behavioral disorder resource rooms ( $M = 11.23$ ;  $p < .01$ ). Figure 1 is provided to show the category by delivery interaction.

Frequency of procedural item deficits, as a post-hoc consideration, was compared to ascertain if any one item contributed to the significant difference between IEPs of resource room students with learning disabilities and behavioral disorders. As revealed in Table 5, IEPs of students with behavioral disorders assigned to resource rooms failed to identify physical education instruction (17 item deficits) more frequently than did IEPs of students in learning disability resource rooms (0 item deficits). IEPs of students with behavioral disorders in resource rooms also failed more often (six item deficits) than IEPs of students with learning disabilities in the same delivery model (0 item deficits) to list individuals responsible for implementation of services.

Table 6 shows procedural component summary data, including the mean number of procedural items for the total sample, category, delivery system, and category by delivery system. The mean numbers show that IEPs included

TABLE 4

SUMMARY OF DUNCAN MULTIPLE COMPARISON TEST (PROCEDURAL)

Category by Delivery	Mean Differences			
BD(SC)	.00			
BD(R)	.47	.00		
LD(SC)	.03	.43	.00	
LD(R)	.47	.93**	.50	.00
	BD(SC)	BD(R)	LD(SC)	LD(R)

Note: BD = Behavioral Disorder; LD = Learning Disability; SC = Self-Contained; R = Resource. \*\*p < .01

FIGURE 1

MEAN NUMBER OF IEP PROCEDURAL COMPONENTS BY CATEGORY AND DELIVERY SYSTEM

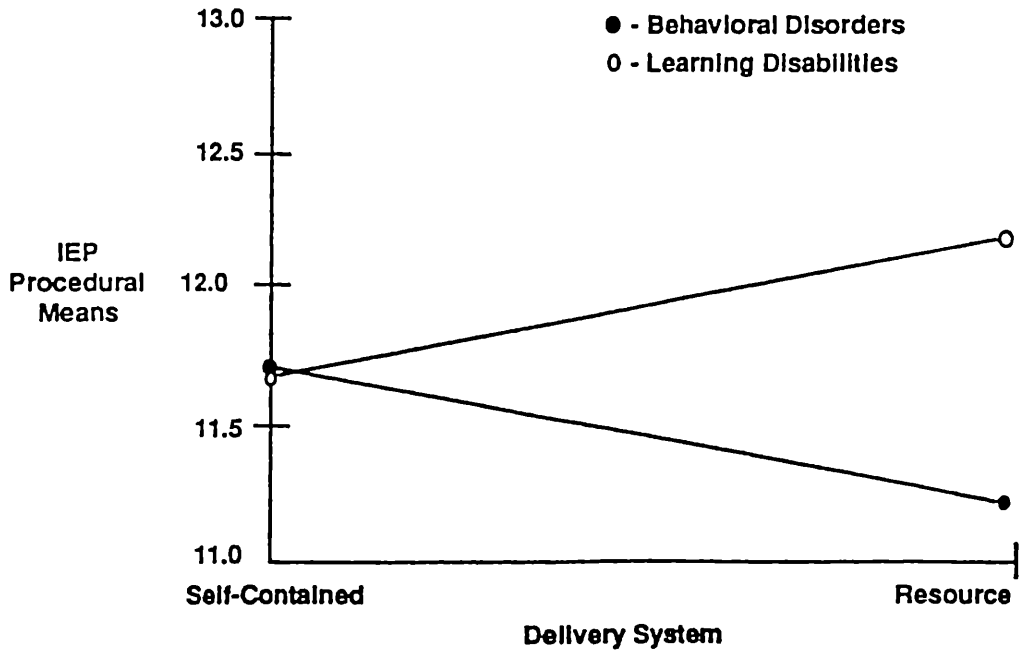


TABLE 5

FREQUENCY SUMMARY OF PROCEDURAL COMPONENT DEFICITS BY  
CATEGORY AND DELIVERY

Component	Category			
	BD		LD	
	Delivery		Delivery	
	SC	R	SC	R
Present level of performance	0	1	0	0
Initiation date and duration of services	1	6	0	1
Individuals responsible for implementation of services	4	1	1	1
Related services	0	1	0	0
Regular academic placement	9	2	2	1
Physical education	7	17	4	0
Annual goals	0	0	0	2
Short-term objectives	0	0	0	2
Criteria, evaluation procedures, and projected completion dates of short-term objectives	4	3	4	7
Signature of district/cooperative representative	7	9	15	6
Signature of special education teacher	0	4	0	0
Signature of parent(s)/educational advocate	0	3	3	1
Evidence of annual review	5	5	11	4

Note: BD = Behavioral Disorder; LD = Learning Disability; SC = Self-Contained; R = Resource.

most of the mandated procedural components, yet each sample group was below the 13 items necessary for full procedural compliance. Generally, IEPs written for students with learning disabilities contained more procedural components

TABLE 6

SUMMARY OF PROCEDURAL MEANS, STANDARD DEVIATIONS, AND RANGE FOR TOTAL SAMPLE, CATEGORY, DELIVERY SYSTEM, AND CATEGORY BY DELIVERY SYSTEM

Sample	$\bar{X}$	SD	Range
Total Sample (N = 120)	11.69	1.28	6 - 13
BD (n = 60)	11.47	1.47	6 - 13
LD (n = 60)	11.91	1.03	10 - 13
SC (n = 60)	11.68	1.13	8 - 13
R (n = 60)	11.70	1.43	6 - 13
BD(SC) (n = 30)	11.70	1.37	8 - 13
BD(R) (n = 30)	11.23*	1.55	6 - 13
LD(SC) (n = 30)	11.67	.84	10 - 13
LD(R) (n = 30)	12.17*	1.15	10 - 13

Note: BD = Behavioral Disorders; LD = Learning Disabilities; SC = Self-Contained; R = Resource. \* $p < .05$

(M = 11.91) than IEPs of students with behavioral disorders (M = 11.47). IEPs of students in self-contained and resource room settings contained a similar number of procedural items, with means of 11.68 and 11.7, respectively.

Table 7 shows frequency and percent data of procedural component deficits for the total sample. Few IEPs in the study failed to include the present level of performance, related services, annual goal statements and short-term objectives; however, substantial deficits were noted in other procedural areas. The procedural components missing most frequently were: (a) signature of the district/cooperative representative (31%); (b) evidence of physical education service (24%); (c) evidence of annual review (21%); and (d) criteria, evaluation procedures, and projected completion dates of short-term objectives (15%).

It is important to note that deficits found in the IEPs involved failure of the multidisciplinary team to provide necessary information. For example, an IEP revealing that related services were not needed for a student would not be judged as deficient, rather, only IEPs wherein such information failed to appear.

#### Substantive Content

Results included in this section dealt with IEP

TABLE 7

SUMMARY OF IEP PROCEDURAL COMPONENT DEFICITS (TOTAL SAMPLE, N = 120)

Component	Frequency and percent of item not found	
	Frequency	Percent
Present level of performance	1	.83
Initiation date and duration of services	8	6.67
Individuals responsible for implementation of services	7	5.83
Related services	1	.83
Regular academic placement	14	11.67
Physical education	29	24.37
Annual goals	2	1.67
Short-term objectives	2	1.67
Criteria, evaluation procedures, and projected completion dates of short-term objectives	18	15.00
Signature of district/cooperative representative	37	30.83
Signature of special education teacher	4	3.33
Signature of parent(s)/educational advocate	7	5.85
Evidence of annual review	25	21.01

substantive content in two parts: the number of annual goals and short-term objectives met.

Hypotheses (Number of Annual Goals)

The hypotheses pertaining to the number of annual

goals (substantive content) were stated as follows:

Hypothesis 3. There are no statistically significant mean differences in the number of substantive components, as measured by the PEPSE, between IEPs written for students with behavioral disorders and learning disabilities.

Hypothesis 4. There are no statistically significant mean differences in the number of substantive components, as measured by the PEPSE, between IEPs written for students in self-contained and resource delivery models.

Hypothesis 7(b). There is no statistically significant interaction of substantive component means between IEPs written for students with behavioral disorders and learning disabilities in self-contained and resource delivery models for the substantive area, as measured by the PEPSE.

In order to determine if there were statistically significant mean differences in the number of annual goals (substantive content), a 2 x 2 x 3 analysis of variance procedure with three repeated measures (i.e., academic, behavior, and other instructional domains) was used. A statistically significant main effect was found for category (between observations)  $F(1, 116) = 8.23, p = .004$ . No statistically significant main effect was found for delivery model (between observations)  $F(1, 116) = 2.96, p = .08$ . Finally, no statistically significant interaction was

found for category by delivery model (between observations)  $F(1, 116) = .39, p = .53$ .

A statistically significant main effect was found for the repeated factors (within observations)  $F(2, 232) = 10.62, p = .000$ . A statistically significant interaction was found for repeated factors by category (within observations)  $F(2, 232) = 3.52, p = .03$ . No statistically significant interaction effect was found for repeated factors by delivery  $F(2, 232) = 2.34, p = .10$ , or repeated factors by category by delivery system  $F(2, 232) = 2.86, p = .06$ . A summary of the results of these analyses are presented in Table 8.

A Duncan Multiple Comparison Test (Keppel, 1982) was conducted to determine the source of the statistically significant repeated factors by category interaction. The results of this test are presented in Table 9. Annual goal comparisons revealed a number of significant differences between IEPs of students with behavioral disorders and learning disabilities across the three instructional domains (i.e., academic, behavior, and other).

First, the number of IEP academic annual goals found in IEPs of students with behavioral disorders ( $M = 1.47$ ) was significantly less than those of students with learning disabilities ( $M = 2.4$ ). The number of IEP academic annual goals for students with behavioral disorders ( $M = 1.47$ ) was

**TABLE 8**  
**SUMMARY OF ANALYSIS OF VARIANCE WITH REPEATED MEASURES**  
**(ANNUAL GOALS)**

Source	df	SS	MS	F	P
Category (BD, LD)	1	30.62	30.62	8.23	.00*
Delivery (SC, R)	1	11.02	11.02	2.96	.08
Category by Delivery	1	1.47	1.47	.39	.53
Error	116	431.54	3.72		
Repeated Factors *	2	81.23	40.62	10.62	.00*
Repeated Factors by Category	2	184.02	92.00	24.05	.00*
Repeated Factors by Delivery	2	17.92	8.96	2.34	.09
Repeated Factors by Category by Delivery	2	21.87	10.94	2.86	.06
Error	232	887.62	3.82		

**Note:** BD = Behavioral Disorder; LD = Learning Disability; SC = Self-Contained; R = Resource. \*Academic, Behavior, Other. \* $p < .05$

also significantly less than the behavior goals found in IEPs of similarly diagnosed students ( $M = 2.7$ ). The number of IEP academic annual goals for students with behavioral disorders ( $M = 1.47$ ), however, was significantly greater than behavior goals ( $M = .20$ ) and other goals ( $M = .68$ ) identified for students with learning disabilities.

Second, comparisons showed significant differences in IEPs of students with learning disabilities between the

number of academic ( $M = 2.4$ ), behavior ( $M = .20$ ), and other goals ( $M = .68$ ). The number of IEP academic goals provided for students with learning disabilities ( $M = 2.4$ ) was also significantly greater than other goals provided for students with behavioral disorders ( $M = .87$ ). The number of IEP behavior goals provided for students with behavioral disorders ( $M = 2.7$ ) was greater than similar goals provided for students with learning disabilities ( $M = .20$ ). IEPs of students with behavioral disorders listed significantly more behavior goals ( $M = 2.7$ ) than other goals ( $M = .87$ ). Finally, the number of IEP behavior goals provided for students with behavioral disorders ( $M = 2.7$ ) was greater than other goals provided for students with learning disabilities ( $M = .68$ ). Figure 2 shows the repeated factors by category interaction.

Table 10 shows the mean number of IEP annual goals in each category (i.e., behavioral disorders, learning disabilities) by delivery model (i.e., self-contained, resource). IEPs of students with behavioral disorders assigned to self-contained settings list more behavior ( $M = 3.43$ ) than academic ( $M = 1.47$ ) and other goals ( $M = .47$ ). The same ranking was found for IEPs of students with behavioral disorders in resource rooms, i.e., there were more behavior ( $M = 1.97$ ) than academic ( $M = 1.47$ ) and other goals ( $M = 1.27$ ).

TABLE 9

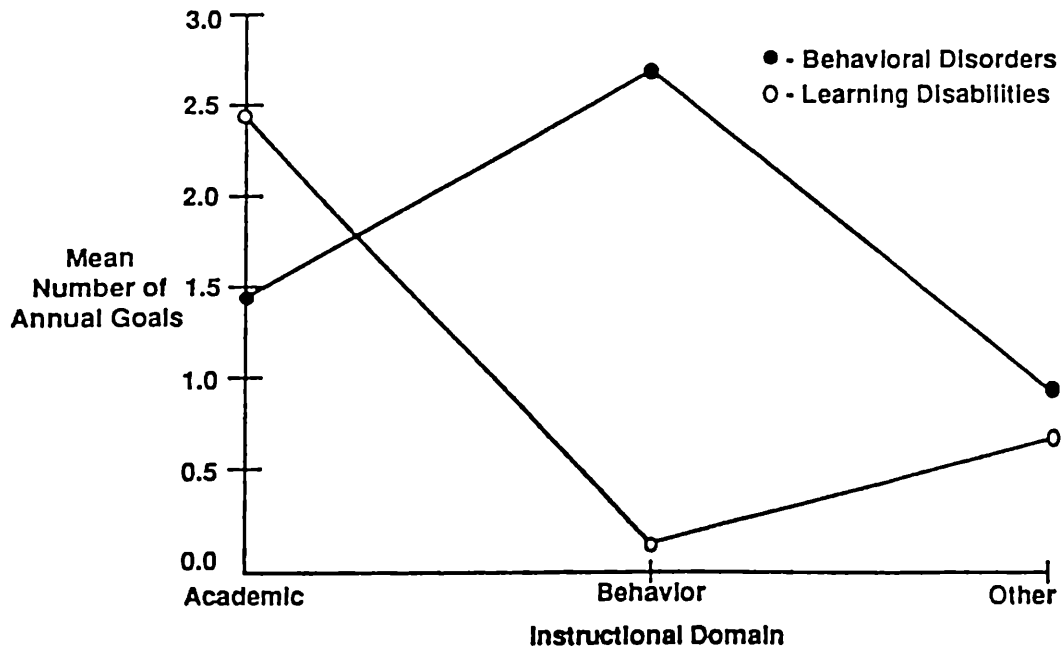
SUMMARY OF DUNCAN MULTIPLE COMPARISON TEST (SUBSTANTIVE)

Instructional Domain by Category	Mean Differences (Annual Goals)					
	A - BD	A - LD	B - BD	B - LD	O - BD	O - LD
Academic - BD	.00					
Academic - LD	.933**	.00				
Behavior - BD	1.23**	.30	.00			
Behavior - LD	1.27**	2.20**	2.50**	.00		
Other - BD	.60	1.53**	1.83**	.67	.00	
Other - LD	.78	1.71**	2.01**	.48	.18	.00

Note: BD = Behavioral Disorder; LD = Learning Disability; SC = Self-Contained;  
R = Resource. \*\*p < .01

FIGURE 2

MEAN NUMBER OF ANNUAL GOALS BY INSTRUCTIONAL DOMAIN AND CATEGORY



In contrast, IEPs of students with learning disabilities assigned to self-contained rooms list more academic ( $M = 2.67$ ) than behavior ( $M = .40$ ) and other goals ( $M = .93$ ). Also, for students with learning disabilities assigned to resource programs, more academic ( $M = 2.13$ ) than behavior ( $M = 0$ ) and other goals ( $M = .43$ ) were identified.

TABLE 10  
SUMMARY OF ACADEMIC, BEHAVIOR, AND OTHER  
GOAL MEANS (CATEGORY BY DELIVERY)

Category by Delivery	Mean Number of Annual Goals*		
	Academic	Behavior	Other
BD(SC)	1.47(1.94)	3.43(1.04)	.47(.78)
BD(R)	1.47(1.40)	1.97(1.24)	1.27(5.66)
LD(SC)	2.67(1.06)	.40(.67)	.93(.83)
LD(R)	2.13(1.10)	0(0)	.43(1.00)

Note: BD = Behavioral Disorder; LD = Learning Disability; SC = Self-Contained; R = Resource. \*Standard deviations shown in parentheses.

Hypotheses (Number of Short-Term Objectives Met)

Hypotheses pertaining to the number of short-term objectives met (substantive content) were stated as follows:

Hypothesis 3. There are no statistically significant mean differences in the number of substantive components, as measured by the PEPSE, between IEPs written for students with behavioral disorders and learning disabilities.

Hypothesis 4. There are no statistically significant mean differences in the number of substantive components, as measured by the PEPSE, between IEPs written for students in self-contained and resource delivery models.

Hypothesis 7(b). There is no statistically significant interaction of substantive component means between IEPs written for students with behavioral disorders and learning disabilities in self-contained and resource delivery models for the substantive area, as measured by the PEPSE.

A 2 x 2 x 3 analysis of variance with repeated measures procedure was used to determine whether significant differences in the number of short-term objectives met existed between category, delivery system, and/or the repeated factors (i.e., academic, behavior, and other instructional domains). No statistically significant main effect was found for category  $F(1, 116) = 1.23, p = .27$ , delivery  $F(1, 116) = 1.66, p = .20$ , or category by delivery  $F(1, 116) = .05, p = .82$ .

A statistically significant main effect was found for the repeated factors  $F(2, 232) = 13.86, p = .000$ . Further, a statistically significant interaction effect was found for repeated factors by category  $F(2, 232) = 3.52, p = .03$ . No significant interaction was found for repeated factors by delivery  $F(2, 232) = 1.96, p = .14$  or repeated factors by category by delivery  $F(2, 232) = .34, p = .71$ . A summary of the results of these analyses are presented in Table 11.

TABLE 11  
SUMMARY OF ANALYSIS OF VARIANCE WITH REPEATED MEASURES  
(SHORT-TERM OBJECTIVES MET)

Source (Between Subjects)	df	SS	MS	F	P
Category (BD, LD)	1	1.74	1.74	1.23	.27
Delivery (SC, R)	1	2.34	2.34	1.66	.20
Category by Delivery	1	.07	.07	.05	.82
Error	116	163.19	1.41		
Repeated Factors *	2	33.15	16.58	13.86	.00*
Repeated Factors by Category	2	8.42	4.21	3.52	.03*
Repeated Factors by Delivery	2	4.69	2.34	1.96	.14
Repeated Factors by Category by Delivery	2	.82	.41	.34	.70
Error	232	277.58	1.20		

Note: BD = Behavioral Disorder; LD = Learning Disability; SC = Self-Contained; R = Resource. \*Academic, Behavior, Other. \* $p < .05$

A Duncan Multiple Comparison Test (Keppel, 1982) was used to determine the source of the significant interaction. Results of this test are presented in Table 12. Mean differences indicated significantly more academic short-term objectives met on IEPs of students with learning disabilities ( $M = 1.0$ ) than academic objectives ( $M = .45$ ) and behavior objectives met ( $M = .25$ ) for students with behavioral disorders. The results also indicated significantly more IEP academic short-term objectives completed ( $M = 1.0$ ) than behavior objectives ( $M = .06$ ) for students with learning disabilities. In addition, IEPs of students with learning disabilities revealed more completed academic short-term objectives ( $M = 1.0$ ) than other short-term objectives ( $M = .000$ ). The number of IEP academic objectives met for students with learning disabilities was also greater than other short-term objectives met for students with behavioral disorders ( $M = .05$ ). Figure 3 shows the repeated factors by category interaction.

Table 13 shows the mean number of short-term objectives met for each category by delivery model. In general, the number of short-term objectives met in all areas was less than 1 per IEP, except for IEPs of students with learning disabilities assigned to resource delivery models ( $M = 1.2$ ). The complete substantive content summary statistics are in Appendix B.

TABLE 12

SUMMARY OF DUNCAN MULTIPLE COMPARISON TEST (SUBSTANTIVE)

Instructional Domain by Category	Mean Differences (Short Term Objectives Met)					
	A - BD	A - LD	B - BD	B - LD	O - BD	O - LD
Academic - BD	.00					
Academic - LD	.55*	.00				
Behavior - BD	.20	.75**	.00			
Behavior - LD	.38	.93**	.18	.00		
Other - BD	.45	1.00**	.25	.67	.00	
Other - LD	.40	.95**	.20	.02	.05	.00

Note: BD = Behavioral Disorder; LD = Learning Disability; SC = Self-Contained;  
R = Resource. \*p < .05. \*\*p < .01

FIGURE 3

MEAN NUMBER OF SHORT-TERM OBJECTIVES MET BY INSTRUCTIONAL DOMAIN AND CATEGORY

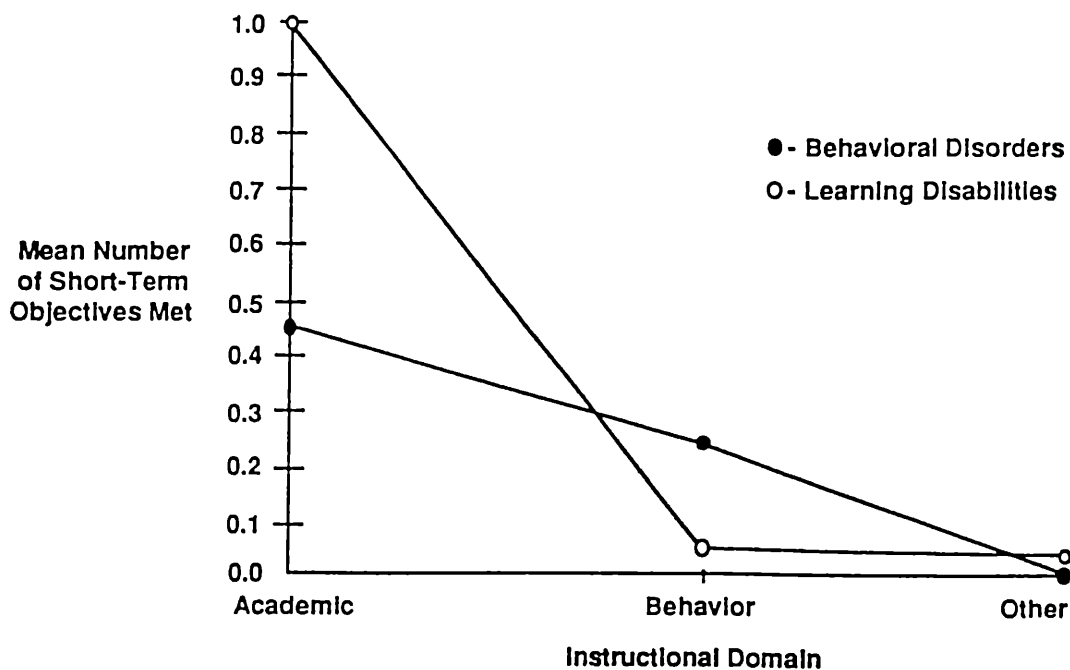


TABLE 13

SUMMARY OF ACADEMIC, BEHAVIOR AND OTHER SHORT-TERM OBJECTIVES MET (CATEGORY BY DELIVERY)

<u>Mean Number of Short-Term Objectives Met*</u>			
<u>Category by Delivery</u>	<u>Academic</u>	<u>Behavior</u>	<u>Other</u>
BD(SC)	.73(2.38)	.17(.53)	0(0)
BD(R)	.17(.53)	.33(1.03)	0(0)
LD(SC)	1.2(2.28)	.13(.43)	.07(.25)
LD(R)	.80(1.6)	0(0)**	.03(.18)

**Note:** BD = Behavioral Disorder; LD = Learning Disability; SC = Self-Contained; R = Resource. \*Standard deviations shown in parentheses. \*\*No written annual goals.

Congruence Findings

Results included in this section dealt with congruence between performance level information and IEP annual goals within the behavior, social/emotional, academic, and other instructional domains.

Hypotheses

The hypotheses pertaining to congruency were stated as follows:

Hypothesis 5. There are no statistically significant mean differences in congruence, as measured by the PEPSE, between IEPs written for students with behavioral disorders and learning disabilities.

Hypothesis 6. There are no statistically significant mean differences in congruence, as measured by the PEPSE, between IEPs written for self-contained and resource delivery models.

Hypothesis 7(c). There is no statistically significant interaction between IEPs written for students with behavioral disorders and learning disabilities in self-contained and resource delivery models for the congruence area, as measured by the PEPSE.

A 2 x 2 analysis of variance was conducted to determine if significant mean differences in congruence existed between category, delivery, or category by delivery. No statistically significant main effect was found for category  $F(1, 115), = 1.65, p = .20$  or delivery model  $F(1, 115), = .16, p = .69$ . A statistically significant interaction was found, however, for category by delivery  $F(1, 115), = 8.09, p = .005$ . Results of this analysis are presented in Table 14.

A Duncan Multiple Comparison Test (Keppel, 1982) revealed a number of statistically significant congruence differences. Specifically, IEPs of students with behavioral disorders in self-contained settings were more congruent ( $M = 75.3\%$ ) than those of their peers in resource models ( $M = 55.9\%$ ). It was also significant that IEPs of students with behavioral disorders in self-

TABLE 14  
SUMMARY OF ANALYSIS OF VARIANCE (CONGRUENCE)

Source	df	SS	MS	F	P
Category (BD,LD)	1	1816.82	1816.82	1.65	.20
Delivery(SC,R)	1	186.33	186.33	.16	.70
Category by Delivery	1	8627.89	8627.89	8.09	.005*
Error	115	122599.30	1066.08		
Total	118	133230.34			

Note: BD = Behavioral Disorder; LD = Learning Disability; SC = Self-Contained; R = Resource.  $p < .05$

contained settings were more congruent ( $M = 75.3\%$ ) than IEPs of students with learning disabilities assigned to a similar delivery model ( $M = 50.5\%$ ). Data for this analysis are provided in Table 15. Figure 4 illustrates the category by delivery interaction.

Table 16 shows summary data regarding percent congruency for total sample, category, delivery system, and category by delivery system. IEPs of students with behavioral disorders assigned to self-contained programs ranked highest for percent congruency ( $M = 75.28\%$ ). Conversely, IEPs of students with learning disabilities in self-contained models ranked the lowest ( $M = 50.55\%$ ). Comparisons between categories reveals IEPs of students with behavioral disorders ranked higher ( $M = 65.58\%$ ) than

TABLE 15

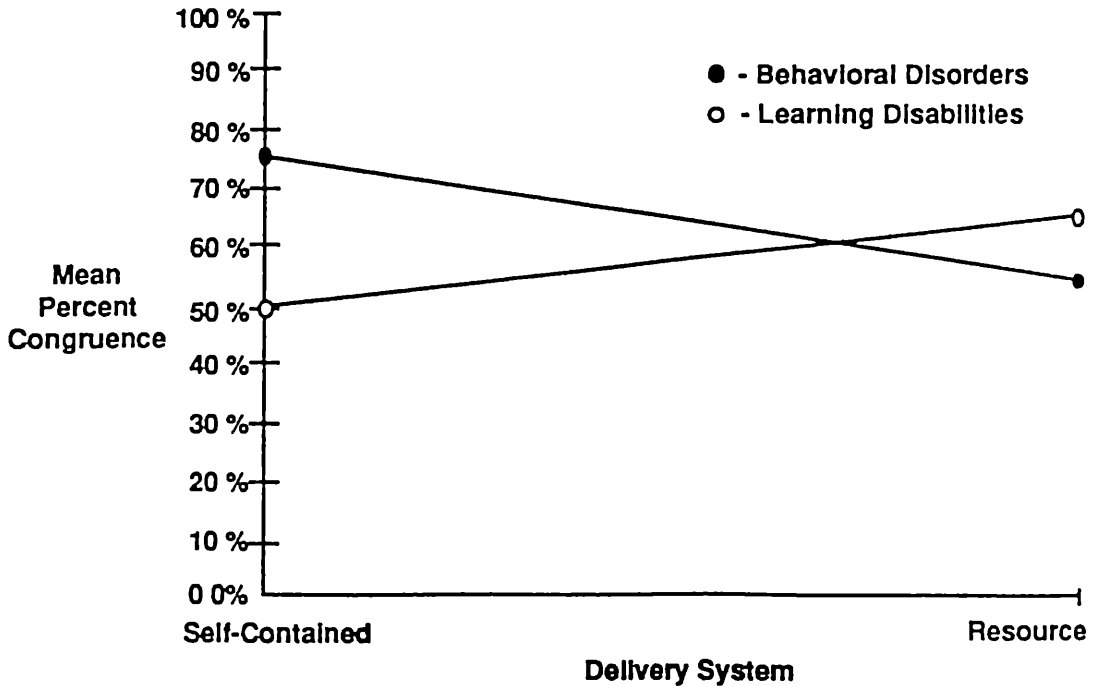
SUMMARY OF DUNCAN MULTIPLE COMPARISON TEST (CONGRUENCE)

Category by Delivery	Mean Differences			
BD (SC)	.00			
BD(R)	19.38*	.00		
LD(SC)	24.72**	5.33	.00	
LD(R)	10.05	9.34	14.67	.00
	BD(SC)	BD(R)	LD(SC)	LD(R)

Note: BD = Behavioral Disorder; LD = Learning Disability; SC = Self-Contained; R = Resource. \* $p < .05$ . \*\* $p < .01$

FIGURE 4

PERCENT CONGRUENCE MEANS FOR CATEGORY BY DELIVERY SYSTEM



IEPs of students with learning disabilities ( $M = 57.77\%$ ) for percent congruency. IEPs of students assigned in self-contained models ranked higher ( $M = 62.92\%$ ) for percent congruency than IEPs of students in resource models ( $M = 60.48\%$ ).

TABLE 16

SUMMARY OF MEAN PERCENT, STANDARD DEVIATION, AND RANGE OF CONGRUENCY FOR TOTAL GROUP, CATEGORY, DELIVERY, AND CATEGORY BY DELIVERY

	Mean Percent	SD	Range
Total Group (N = 119*)	61.71	33.60	0 - 100
BD (n = 60)	65.58	33.06	0 - 100
LD (n = 59*)	57.77	33.97	0 - 100
SC (n = 60)	62.92	33.10	0 - 100
R (n = 59*)	60.48	34.34	0 - 100
BD (SC) (n = 30)	75.28	32.64	0 - 100
BD (R) (n = 30)	55.89	31.04	0 - 100
LD (SC) (n = 30)	50.55	29.11	0 - 100
LD (R) (n = 29*)	65.23	37.41	0 - 100

**Note:** BD = Behavioral Disorder; LD = Learning Disability; R = Resource; SC = Self-Contained. \*One IEP indicated a monitoring goal; thus, it was not assessed for congruency.

As a post-hoc consideration, incongruencies (i.e., performance level information failed to reveal a need but

an annual goal was written, or performance level information revealed a need in the absence of an annual goal statement) were examined. Tables 17 and 18 present IEP incongruency data (frequency and percent) for three domains: behavior(overt), social/emotional, and academic, by category and delivery system, respectively. Small frequencies of incongruencies in the other domain (i.e, a summation of self-help, psycho-motor, environmental, and speech/language areas) precluded meaningful statistical analysis.

Component Missing: Level of Performance data refer to incongruencies due to goals being written in the absence of supporting information; Component Missing: Annual Goal data refer to cases in which no goal was provided although the need for a goal was established.

A Chi-Square Test for Differences in Probabilities (2 x 2 contingency table) (Conover, 1980) was conducted to test for significant differences in frequencies. Data in Table 17 show significant incongruency differences (i.e., differences in frequencies) between categories in the behavior,  $\chi^2(1, N = 31) = 8.16, p = .004$ , and social/emotional domains,  $\chi^2(1, N = 25) = 6.17, p = .013$ . IEP incongruencies for students with learning disabilities in the aforementioned areas were higher for level of performance deficiencies and lowest for annual goal

deficiencies. Comparatively, student IEP incongruencies in the behavioral disorder area were higher for annual goal deficiencies. There was no significant difference between categories in the academic domain,  $\chi^2(1, N = 40) = 2.34, p = .125$ .

TABLE 17

SUMMARY OF FREQUENCIES AND PERCENTAGES OF INCONGRUENCIES  
(LEVEL OF PERFORMANCE OR ANNUAL GOAL MISSING) FOUND IN  
INSTRUCTIONAL DOMAINS BETWEEN CATEGORICAL AREAS

Area of Incongruency	Category	Component Missing	
		Level of Performance	Annual Goal
Behavior (n = 31)*			
	Behavioral Disorders (n = 12)	(5) 41.67	(7) 58.33
	Learning Disabilities (n = 19)	(17) 89.47	(2) 10.53
Social/Emotional (n = 25)*			
	Behavioral Disorders (n = 16)	(6) 37.50	(10) 62.50
	Learning Disabilities (n = 9)	(8) 88.89	(1) 11.11
Academic (n = 40)			
	Behavioral Disorders (n = 22)	(12) 54.55	(10) 45.45
	Learning Disabilities (n = 18)	(14) 77.78	(4) 22.22

\*Note: Significant differences were found between categorical areas in the Behavior domain ( $\chi^2 = 8.16; p = .004; df = 1$ ) and Social/Emotional domain ( $\chi^2 = 6.17; p = .013; df = 1$ ). No significant difference was found in the Academic domain ( $\chi^2 = 2.34; p = .12; df = 1$ ).

Data in Table 18 show significant incongruency differences between delivery systems in the academic domain,  $\chi^2(1, N = 40) = 5.87, p = .015$ . Specifically, IEP incongruencies of students in self-contained settings were higher for level of performance deficiencies and lowest for annual goal deficiencies. No differences between delivery systems were found for the behavior,  $\chi^2(1, N =$

TABLE 18

SUMMARY OF FREQUENCIES AND PERCENTAGES OF INCONGRUENCIES  
(LEVEL OF PERFORMANCE OR ANNUAL GOAL MISSING) FOUND IN  
INSTRUCTIONAL DOMAINS BETWEEN DELIVERY SYSTEMS

Area of Incongruency	Component Missing	
	Level of Performance	Annual Goal
Delivery System		
Behavior (n = 31)		
Self-Contained (n = 14)	(10) 71.43	(4) 28.57
Resource (n = 17)	(12) 71.00	(5) 29.41
Social/Emotional (n = 25)		
Self-Contained (n = 12)	(8) 66.67	(4) 33.33
Resource (n = 13)	(6) 46.15	(7) 53.85
Academic (n = 40)*		
Self-Contained (n = 19)	(16) 84.21	(3) 15.79
Resource (n = 21)	(10) 47.62	(11) 52.38

\*Note: Significant differences were found between delivery systems in the Academic domain ( $\chi^2 = 5.87; p = .015; df = 1$ ). No significant differences were found for the Behavior ( $\chi^2 = .003; p = .95; df = 1$ ) or Social/Emotional domains ( $\chi^2 = 1.06; p = .30; df = 1$ ).

31) = .003;  $p = .959$ , and social/emotional domains,  $\chi^2(1, N = 25) = 1.07, p = .302$ .

### Summary of Results

The results of this study revealed statistically significant differences in IEPs of students with behavioral disorders and learning disabilities in self-contained and resource delivery models. Differences were found for compliance with the components outlined in the EHA, similarities and/or differences of instructional programming, and congruence between student needs and annual goals. As a post-hoc consideration, additional descriptive data were provided to compare and contrast IEP components.

### Procedural Findings

The results of the 2 x 2 analysis of variance and subsequent Duncan Test indicated significant mean differences in IEP procedural components. Specifically, IEPs of students assigned to learning disability resource rooms were procedurally more compliant than IEPs of students with behavioral disorders in resource room settings. Frequency data revealed IEPs of students with behavioral disorders failed to identify physical education instruction and to list individuals responsible for implementation of services more frequently than IEPs of

students with learning disabilities assigned to resource programs.

Overall, the IEPs in the study revealed high procedural compliance ( $M = 11.69$ ). Deficits were most frequently noted in the following areas: signature of the district/cooperative representative; provision of physical education; evidence of annual review; and criteria, evaluation procedures, and projected completion dates of short-term objectives.

#### Substantive Content (Number of Annual Goals)

The results of the  $2 \times 2 \times 3$  analysis of variance with repeated measures and subsequent Duncan Test indicated significant mean differences in the number of IEP annual goals between categories and the repeated factors (i.e., academic, behavior, other). Generally, more academic goals were written for students with learning disabilities than for those with behavioral disorders and more behavior than academic goals were provided for students with behavioral disorders. In addition, more IEP academic goals were provided for students with behavioral disorders than behavior and other goals for students with learning disabilities.

#### Substantive Content (Number of Short-Term Objectives Met)

The results of the  $2 \times 2 \times 3$  analysis of variance with repeated measures and subsequent Duncan Test

indicated significant mean differences between categories and repeated factors for number of short-term objectives met. Generally, IEPs of students with learning disabilities indicated achievement of more academic short-term objectives than IEPs of students with behavioral disorders. Also, IEPs of students with learning disabilities indicated more academic objectives met than behavior objectives for students with behavioral disorders. Descriptive data showed small numbers of objectives met (i.e., mean was less than one objective met) for most sample groups. IEPs of resource program students with learning disabilities revealed more completed objectives than other groups.

#### Congruence Findings

The results of the 2 x 2 x 3 analysis of variance with repeated measures and subsequent Duncan Test indicated significant differences in mean measures of congruence between categories and repeated factors. Specifically, IEPs of students with behavioral disorders in self-contained programs were congruent more than their peers' IEPs in resource settings. Also, IEPs of students with behavioral disorders in self-contained programs were congruent more than IEPs of students with learning disabilities in self-contained settings. Descriptive data showed that IEPs of students with behavioral disorders

ranked higher for congruence than IEPs of students with learning disabilities. In addition, IEPs of students assigned to self-contained models ranked higher for percent congruence than IEPs of students in resource programs.

Chi-square analyses, conducted to analyze the nature of incongruencies, indicated differences in frequency between categories and instructional domains. Specifically, IEPs of students with learning disabilities were missing more student performance information than annual goals in the behavior and social/emotional domains. Conversely, for the same domains, IEPs of students with behavioral disorders were missing more annual goals.

The Chi-square analyses also indicated differences between delivery models and instructional domains. Specifically, IEPs of students assigned to self-contained programs were missing more academic performance information than annual goals and IEPs of students assigned to resource rooms were missing more annual goals than performance information.

## CHAPTER V

### SUMMARY AND DISCUSSION

The EHA asserts the right of students with exceptionalities to an appropriate education based on individual needs. In this regard, IEPs serve to orchestrate students' needs and educational services. To accomplish the goals for which they were designed, IEPs must be potent, comprehensive, and accurate.

Recognizing the influence of the IEP and its potential effect on a student's educational program, researchers have scrutinized the document for procedural compliance and quality indicators. Literature resulting from these analyses has clearly implicated the IEP process and document as ineffective, incomplete, and faulty (cf. Comptroller General of the United States, 1981; Dudley-Marling, 1985; Schenck, 1980; Schenck & Levy, 1979; Smith & Simpson, 1989). Although these investigations have been consistent in their findings, few research efforts have relied on inferential procedures to compare and contrast IEPs of students differentially diagnosed or assigned to various delivery models. Rather, researchers have relied on descriptive measures to portray the IEP. Thus, a need exists for inferential investigations which compare and contrast IEPs of students within various categories and delivery models.

### Summary of Procedures

The present study compared IEPs written for male students with behavioral disorders and learning disabilities (grades 4-6) assigned to self-contained and resource delivery programs. IEPs of students from two urban school districts, one large suburban/rural special education cooperative near a metropolitan area, one suburban school district, and seven rural cooperatives, were systematically sampled. A total of eleven school districts/cooperatives participated in the study.

Specifically, IEPs of four groups of students were assessed: (a) IEPs of students with behavioral disorders in a resource model; (b) IEPs of students with behavioral disorders in a self-contained model; (c) IEPs of students with learning disabilities in a resource model; and (d) IEPs of students with learning disabilities in a self-contained model. Thus, 120 IEPs constituted the total sample.

The independent variables were diagnostic category (i.e., behavioral disorders, learning disabilities) and delivery system (i.e., self-contained, resource). The dependent variables were data gathered from the PEPSE, an instrument designed to assess IEP procedural intent and substantive components indicative of quality special education programming. The PEPSE was used to assess IEPs

in three areas: (a) IEP procedural components mandated by the EHA, (b) IEP substantive content (i.e., the number of annual goals and short-term objectives met) and (c) IEP congruency of assessed needs and annual goals.

Procedural items assessed via the PEPSE included: (a) present level of performance, (b) related services, (c) initiation date and duration of services, (d) regular academic placement, (e) physical education, (f) list of individuals responsible for IEP implementation, (g) annual goals, (h) short term objectives, (i) criteria, evaluation procedures, and projected completion dates of short term objectives, (j) signature of representative of the district/cooperative, other than the child's teacher, (k) signature of the child's teacher, (l) signature of parent/educational advocate, and (m) evidence of annual review. Annual goals and short-term objectives were categorized as academic (e.g., reading, spelling), behavior (e.g., overt behavior, social /emotional), and other (e.g., speech/language, self-help, vocational, psycho-motor).

Congruence between students' performance level and annual goals was assessed in the following areas: behavior, social/emotional, academic, and other (e.g., self help, psycho-motor, environmental, and speech/language). These areas were evaluated relative to their translation as IEP annual goals. Lack of congruence was noted when

performance level information failed to reveal a need but an annual goal was written, or when performance level information revealed a need in the absence of an annual goal statement.

The investigator conducted IEP assessment at each participating district/cooperative administrative office during a four week period. After completion of IEP assessment, data were entered into a computer system for analysis. Subsequent to data entry, appropriate univariate statistics (2 x 2 factorial analysis of variance and 2 x 2 x 3 factorial analysis of variance with repeated measures) were used to test the a priori hypotheses. Chi-Square analyses and descriptive procedures (e.g., mean, percent, standard deviation, etc.) were also used to analyze data.

### Summary of Research Results

#### IEP Procedural Findings

Significant differences in the mean number of procedural components were found between IEPs of students with behavioral disorders and learning disabilities in resource room programs. IEPs of students with learning disabilities in resource room settings listed significantly more mandated procedural items than IEPs of students with behavioral disorders assigned to a resource delivery model.

The present study revealed procedural faults in a majority of IEPs. In particular, procedural deficits were

found in a variety of areas: district/cooperative representative signature, provision of physical education instruction, evidence of annual review, extent of regular education participation, and criteria, evaluation procedures, and projected completion dates of short-term objectives.

#### IEP Substantive Content

Number of Annual Goals. Significantly more academic goals were provided for students with learning disabilities; significantly more goals dealing with behavioral excesses and deficits were written for students with behavioral disorders. In addition, the number of academic goals provided for students with behavioral disorders was greater than the number of behavior goals for students with learning disabilities.

Number of Short-Term Objectives Met. Results indicated an average of one or less completed IEP short-term objective for each of the sample groups. Even so, significant differences between categories in some instructional domains were found. IEPs revealed more academic objectives completed for students with learning disabilities than for students with behavioral disorders. Moreover, there were significantly more IEP academic objectives met for students with learning disabilities than behavior objectives for students with behavioral disorders.

### IEP Congruence

IEPs of students with behavioral disorders assigned to self-contained programs were more congruent than their peers' IEPs in resource settings and more congruent than IEPs of students with learning disabilities in self-contained settings. Overall, IEP level of performance information and annual goals were congruent 62% of the time.

IEPs in the present study revealed substantial performance deficits (i.e., annual goal identification in the absence of need) and annual goal deficits (i.e., indication of need in the absence of an annual goal). Component missing differences (i.e., level of performance or annual goal) were noted for category and delivery model. IEP of students in self-contained programs revealed more performance deficits in the academic area than IEPs of students assigned to resource rooms. IEPs for students with learning disabilities indicated performance deficits in the behavior and social/emotional area; whereas, IEPs of students with behavioral disorders indicated annual goal deficits.

### Discussion

#### Procedural Findings

Interpretation of the significant procedural differences between IEPs of students with learning

disabilities and behavioral disorders in resource programs is difficult. It was assumed, in the present study, that all school districts and special education cooperatives who were receiving federal entitlement were adhering to EHA provisions, including IEP requirements. Accordingly, no procedural differences were expected for students with different diagnostic categories in similar delivery models, regardless of geographic location. However, descriptive data indicated that IEPs of students with behavioral disorders in resource room settings frequently failed to identify physical education instruction and to list individuals responsible for implementation of services.

Differences between groups may have been affected by any one of a number of factors. For students with behavioral disorders, resource programs were available only in rural cooperatives. As an effect, systematic bias may have influenced results. That is, IEP teams of these students, by virtue of their rural setting, may have interpreted IEP policy and procedures differently than urban/suburban IEP teams. This notion is supported by Skrtic et al. (1985) who found rural special education cooperatives adjusting mandated rules and regulations as a function of their geographic isolation. In addition, rural IEP teams may lack opportunities for comprehensive IEP inservice. This may be due, in part, to an increase in

rural poverty and a diminishing tax base for school support (Helge, 1983).

The present study revealed procedural faults in a large number of IEPs, thereby impugning the role of the IEP as a management tool of special education programs. While the results of the present study were consistent with IEP procedural deficits found by Schenck and Levy (1979) and the Comptroller General of the United States (1981), they were contrary to the underlying premise of mandated procedural adherence.

#### Substantive Findings

It is difficult to interpret the meaning of the mean number of IEP annual goals in the present study for a number of reasons. First, the optimal number of goals within instructional domains (i.e., academic, behavior, other) for students with learning disabilities and behavioral disorders is unavailable. Second, district/cooperative policy variance, differences in inservice and preservice training, and differences in teacher categorical training may have contributed to goal variability.

The more salient discussion, then, becomes centered around the assumption that distinct groups of students assigned to various delivery models benefit from or require differential instruction. From this perspective, IEP goals

for students with learning disabilities would emphasize academic remediation. For students with behavioral disorders, treatment of behavioral excesses and deficits should be emphasized (Berdine & Blackhurst, 1985; Hallahan & Kauffman, 1986). With regard to the principle of least restrictive setting, it is assumed that self-contained and resource programs differ in the amount and type of planned instruction. Thus, differences in annual goal type and number should vary according to students' classification and delivery system assignment.

In the present study, more academic goals were found for students with learning disabilities than for students with behavioral disorders; more behavior goals were provided for students with behavioral disorders than for those with learning disabilities. These findings were similar to results found by McBride and Forgnone (1985). Thus, the annual goal data, in the present study, supports the assumption of planned differential instruction.

IEP goal data were not consistent for students assigned to resource and self-contained programs. IEPs of students with behavioral disorders revealed approximately the same number of goals independent of delivery model. In contrast, IEPs of students with learning disabilities assigned to self-contained programs consistently provided more academic, behavior, and other goals than did IEPs of

students in resource programs. Thus, the data does not consistently support the relationship of planned instruction and restrictiveness of setting across categories. That is, the goal data does not consistently support the assumption that a more restrictive setting (i.e., self-contained) provides more structure and instructional opportunities for students with behavioral disorders and learning disabilities.

Interpretation of the meaning and significance of the number of short-term objectives met in the present study is complex. Individual student characteristics, varied curricula and training methods, assessment accuracy, variance in short-term objective appropriateness, and differences in time of IEP implementation may influence students' completion of objectives. In the present study, however, differences in the mean number of objectives met may be due to more specific factors.

In this study, a greater number of academic goals were provided for students with learning disabilities than for students with behavioral disorders. Thus, for teachers of students with learning disabilities, there were more opportunities to indicate completion of academic objectives. In addition, teachers of students with learning disabilities, as a result of a preservice emphasis on psychoeducational assessment and academic remediation,

may be highly skilled in evaluating academic progress. As such, these teachers may emphasize academic instruction and subsequent evaluation more than teachers of students with behavioral disorders.

Teachers implementing IEPs, however, are responsible for monitoring and evaluating, on a continual basis, a student's progress towards achievement of short-term objectives. Thus, students' level of success, or failure, with regard to their IEPs, is contingent upon an efficacious and thorough system of evaluation. When consideration is given to the importance of on-going IEP evaluation, the number of objectives completed for students with learning disabilities and behavioral disorders in the present study appears low. This conclusion, albeit tentative, suggests that (a) IEP teams, and in particular classroom teachers, developed IEP objectives which were too difficult to achieve or were unrelated to students' needs; (b) classroom activities associated with objective attainment did not receive proper attention; and/or (c) teachers did not record objectives as they were completed. Regardless of the reason, these data appear to suggest less than adequate IEP planning, implementation, and monitoring.

#### IEP Congruence

An assumption was made prior to conducting this investigation that students' IEPs would adequately and

appropriately describe and orchestrate an individualized instructional program. That is, each student's present level of performance would serve as the basis for IEP annual goals and objectives. This basic link between student need and program availability represents the very essence of special education and specially designed instruction. Results from this study, however, did not support this assumption.

In a large number of cases, IEP teams did not provide a unique and individualized instructional program for students. Overall, IEP level of performance information and annual goals were congruent 62% of the time. These data serve as strong evidence that a substantial number of IEPs written for students with learning disabilities and behavioral disorders failed to function as effective instructional guides.

As reported in the literature, Crisler (1979) and Kehle and Guidubaldi (1980) argued that implementation of a team approach to transform assessment data into a comprehensive instructional plan is difficult. Additionally, Arter and Jenkins (1979) and Ysseldyke and Algozzine (1982) expressed concern that psychometric measures currently utilized in assessment are not useful in instructional planning. That is, these measures provide little knowledge of students' level of performance within

the school curriculum. Thus, formulation of IEP goals directly related to instructional needs (i.e., congruence) would be unexpected.

Congruence data, considered to be the most significant indicator of IEP integrity in this study, revealed statistically significant differences between categories and delivery systems. IEPs of students with behavioral disorders assigned to self-contained programs were more congruent than IEPs of students with learning disabilities in a similar delivery model. Although inconclusive, this evidence suggests that IEP teams of students with behavioral disorders were better able to translate behavior assessment gathered by checklists, interviews, personality measures, and observations into instructional goals.

Further, IEPs of students with behavioral disorders in self-contained programs were more congruent than IEPs of students with behavioral disorders in resource programs. This difference may be explained by the present study's sampling limitations. IEPs of students with behavioral disorders in resource programs were available only from rural settings. Thus, geographic location may affect IEP teams and their ability and willingness to convert assessment information into annual goals.

IEPs in the present study revealed substantial performance deficits (annual goal identification in the absence of need) and annual goal deficits (indication of need in the absence of an annual goal). Component missing differences (i.e., level of performance or annual goal) were noted for category and delivery model. Without subsequent analysis, interpretation of the incongruency results is complex and, at best, conjectural. Yet, some general explanations and possible speculations for the incongruencies can be posited. Ysseldyke, Algozzine, Richey, and Graden (1982) suggest there is little evidence that assessment results are used for purposes other than to demonstrate professional credibility. That is, assessment techniques are used to satisfy a perception of competence and professionalism. In practice, however, professionals may simply tailor a program they believe to be most beneficial to the student, irrespective of diagnostic findings. This may be the case in the present study as demonstrated by the IEP teams' inability or unwillingness to coordinate planned instructional goals through assessment.

In its most basic form, the incongruency results derived from this study suggest that provision of planned instructional goals is not based on extensive testing. While IEP congruence differences were found between

categories and delivery programs, it appeared that professionals charged with developing IEPs, in this study, were not effective in linking performance level information with instructional planning.

#### Implications for Educators

For those professionals charged with the delivery of special education services, the IEP is essential in documenting a "free and appropriate public education" as mandated by the EHA. Yet, this study raises questions as to the consistent, comprehensive, and accurate manner in which IEPs arrange students' educational programs.

Research results demonstrated planned differential programming based on student diagnosis; however, differential programming was inconsistent when based on delivery model. Specifically, an emphasis was found for planned remediation of behavior and social/emotional excesses and deficits for students with behavioral disorders; planned academic instruction was found for students with learning disabilities. In addition, results revealed an inconsistent amount of planned goals for students assigned to resource or self-contained educational environments. Although the results indicated planned differential programming, it is difficult to explain the disparate findings of research suggesting similar classroom instruction despite categorical placement and setting

(Algozzine et al., 1988). Deliberation of these results reveal implications with regard to preservice and inservice training.

Many colleges and universities provide certification based on concepts of categorical exceptionalities. Differential training, then, may explain differences in instructional programming (i.e, number and nature of annual goals) for students with behavioral disorders and learning disabilities in different delivery models. Yet, as dicussed in Chapter 2, there is substantial evidence in the literature to question the efficacy of differential instruction based on categorical placement of students in special education (Edgar & Hayden, 1985; Gajar, 1979; Gardner, 1977; Hallahan & Kauffman, 1976; Hallahan & Kauffman, 1977; Hewett & Forness, 1974; Morsink et al., 1987; Lilly, 1979). Noncategorical training on the preservice level, would relate common characteristics of special students, rather than distinct categorical traits and instructional approaches. Thus, a noncategorical approach in preservice training may provide a variety of perspectives, procedures, and alternatives for more relevant IEP development.

For districts/cooperatives, comprehensive IEP inservice may alleviate some procedural deficiencies and provide a basic understanding of the IEP and its

relationship to actual classroom instruction. School-based training would also reflect state and local policy and regulations, thereby facilitating more satisfactory IEP procedural compliance.

There are implications beyond preservice and inservice training, though, which seem relevant in light of the IEP's importance. Although the present study did not investigate the "matching" of the IEP and actual classroom activities, it can be argued that IEPs, as the document of "specially designed instruction," should have direct implications to actual classroom instruction (Fiscus & Mandell, 1983; Meyen, 1982; Smith & Simpson, 1989). The law clearly states that a relationship should exist between the IEP and classroom activities (i.e., specially designed instruction). This connection of the IEP and classroom instruction is the theme that animates the following implications.

"Specially designed instruction" is the definition of special education. With this in mind, if IEPs are found to be questionable in fulfilling the intent of the law, then special education (defined as specially designed instruction) may be suspect as well. The educational program may not be "special" because the IEP document and process providing individualized education and resources based on individual needs is not functioning as intended.

Special education is considered the "appropriate" program for students with special needs. An "appropriate" education for students with special needs is the basic ingredient embedded in the "free, appropriate, public education" principle of the EHA. This concept of "appropriate" implies both quality and effectiveness (Meyen, 1982). The lack of IEP procedural compliance and congruence found in the present study suggests that this document may be a less than adequate indicator of "appropriate" education. Without an "appropriate" educational opportunity, which is directed by and monitored through the IEP, students placed in special education programs may not be receiving services with the full intent of the EHA. Thus, through research on IEPs, the EHA may not be functioning as originally intended.

After more than a decade of implementation, research, and subsequent recommendations, substantive IEP change has not ensued. In consequence, we may have been ignoring "specially designed instruction," which is special education, the appropriateness of that education, and thus, the very students that the law was designed to protect and educate with their individual needs in mind.

Recommendations found in the analytic literature on IEPs were: more inservice (Nadler & Shore, 1980; Schenck, 1980; Schenck, 1981; Schenck & Levy, 1979; Schipper &

Wilson, 1978; Williams, 1984), additional research (BEH, 1979; Williams, 1984), more informative IEP forms (Joseph et al., 1983; Schipper & Wilson, 1978), more preservice teacher training (Schenck, 1981), better coordinated compliance enforcement (Dodaro & Salvemini, 1985; McGarry & Finan, 1982), and a modification in parent involvement (Gerardi et al., 1984). Despite state compliance plans, recommendations from past research efforts, and a team approach to IEP development, IEPs have continually shown deficits in numerous areas. "Such deficits render the IEP ineffective as a tool for accountability, parental involvement, communication, and planning" (Bureau of Education of the Handicapped, 1979, p. 106).

Past research and the present day acceptance of technology assisted IEPs suggest continued questioning of the efficacy of the IEP document and its relationship with the EHA. If, as Turnbull (1986) has stated, IEPs are truly reflective of special education's best thinking, then an incongruency exists between this "best thinking" and its actual product.

#### Limitations of the Study

As with most statistical procedures, bias resulting from sample selection should not be overlooked. The unavailability of a resource delivery model for students with behavioral disorders (grades 4-6) necessitated IEP

sampling beyond the original sites participating in the study. Thus, the IEPs sampled for students with behavioral disorders were from seven rural special education cooperatives. Systematic differences, then, may have influenced the results of the study.

In addition, professionals in this study responsible for IEP development may have been unwilling to comply with the guidelines and tenets of the EHA, thereby, invalidating IEP data. Previous research indicates that many practitioners and administrators consider the IEP an obsolete and cumbersome tool with no direct bearing on educational quality (Morgan & Rhode, 1983; Dudley-Marling, 1985; Joseph et al., 1983). Thus, IEP development by professionals may be in response to compliance demands rather than to the documenting of assessment-based instruction with evaluation of outcomes.

#### Recommendations for Future Research

The results of this study substantiate past findings questioning the validity, reliability, and accuracy of the IEP document. The logical conclusion after more than a decade of implementation, discussion, enforcement, and research, is that the value of the IEP remains uncertain. The present study, therefore, prompts consideration of several significant issues: Are there functional IEP benefits? Are most IEPs written for compliance purposes

with no intent of them serving as a guide for instructional programming? Could the needs of children and youth with learning disabilities and behavioral disorders be effectively served without IEPs? As such, the results of this study suggest a number of future research inquiries.

Because of the paucity of IEP inferential studies and the present study limitations, additional replications are warranted. Multi-region, multi-state examinations comparing IEPs between categorical areas and delivery models is suggested. Further, investigations of IEPs written for students in more restrictive settings (e.g., seriously emotionally disturbed in residential treatment settings) might provide additional information.

Another reasonable sequence of IEP study may examine the relationship between IEP quality and teacher effectiveness. For example, IEPs could be assessed for indices of quality and correlated with measures of teacher effectiveness, such as, classroom organization and management as well as methods of presentation, practice, and student evaluation.

Finally, the questions posited above could be examined using qualitative research methods. It is obvious that IEP findings resultant from a different methodological paradigm would provide varied and valuable information regarding the IEP process and document.

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APPENDIX A

Program Evaluation for Procedural and  
Substantive Efficacy (PEPSE)

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# PEPSE. ©

PROGRAM EVALUATION FOR PROCEDURAL AND SUBSTANTIVE EFFICACY

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STEPHEN W. SMITH  
UNIVERSITY OF KANSAS

AN INDIVIDUALIZED EDUCATION PROGRAM (IEP) ASSESSMENT  
INSTRUMENT COVERING PROCEDURAL INTENT AND SUBSTANTIVE  
COMPONENTS INDICATIVE OF QUALITY SPECIAL EDUCATION PROGRAMMING.

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# PEPSE.

## Program Evaluation for Procedural and Substantive Efficacy

The PEPSE is designed for use by practitioners in the field of special education to assess the quality of Individualized Education Programs (IEPs). Using an item found/not found format, this instrument focuses on three areas: 1) compliance demands of Public Law 94-142 (The Education for All Handicapped Children Act), 2) quality indicators, including the number of annual goals (AG) and number of short term objectives (STO), and 3) congruence between the present level of performance (PLP) and written AGs.

The PEPSE can be used by educators to evaluate individual IEPs or those of an entire classroom or school. Statistical analysis of the information collected can alert teachers and administrators to factors relating to IEP quality. It can also reveal areas in the IEP which require additional information or attention, expose deficits such as representativeness of IEP team members, or show incongruence between the PLP statement and written AGs. Thus, the PEPSE can be used to improve programming for exceptional children via IEP improvements.

### General Instructions

The PEPSE is essentially an item found/not found checklist with some items requiring additional examiner inspection. In general, if a checklist item contains numerous components, all components must be present to fulfill the item found criteria. Information found in the IEP should be clear, focused, and precise; thus, the examiner need not interpret items. Generally, if information is unclear or confusing it should be regarded as an item deficit.

### Part I (Procedural)

This section contains those checklist items necessary for federal guideline compliance. A few items are also included which go beyond compliance demands (see items 1.2 and 1.10).

### Part II (Substantive)

In addition to a checklist, this section requires the examiner to gather information from the IEP, including the number of AGs and STOs met in specific areas. For classification of AGs into these specific areas (e.g., academic, social/emotional, behavior, environmental, etc.) descriptors may be found in Part III. (It is important to classify AGs to better analyze the instructional areas provided to the student.) If an AG does not fit one of the descriptors, then consistency of interpretation by the examiner is essential.

### Part III (Congruence)

This section is a formula for assessing congruence/incongruency between the PLP statement and the AG found in the IEP. In order to be congruent (two item found check marks [√]), information must be present in the PLP and an AG must accurately reflect that information. For example, reading comprehension is stated as a concern in the PLP and an AG is written in the IEP to provide instruction. Because both of these are items found two √s are indicated in the academic areas which equals (with an X) congruency. (Note. Although AGs may appear to be reflective of the PLP statement, a close examination of the STOs may reveal the true nature and scope the true nature and scope of the AG. Thus, an examiner may be required to make a subjective decision regarding the classification of AGs).

STUDENT'S NAME \_\_\_\_\_  
(or Code #)

DATE \_\_\_\_\_

D.O.B. \_\_\_\_\_

SCHOOL DISTRICT (CODE) \_\_\_\_\_

SEX \_\_\_\_\_

EXCEPTIONALITY \_\_\_\_\_

GRADE \_\_\_\_\_

EXAMINER \_\_\_\_\_

### PART 1

#### MANDATED PROCEDURAL COMPONENTS:

ITEM FOUND (√)  
ITEM DEFICIT (0)

#### IEP PROVIDES STATEMENT OF:

- \_\_\_\_\_ 1.1 present level of performance (academic, behavioral, social/emotional, physical, pre-vocational/vocational, self-help, etc.)
- \_\_\_\_\_ 1.2 related services (adaptive P.E., speech therapy, counseling, etc.)
- \_\_\_\_\_ 1.3 initiation date and duration of service
- \_\_\_\_\_ 1.4 regular academic placement
- \_\_\_\_\_ 1.5 physical education
- \_\_\_\_\_ 1.6 pre-vocational/vocational
- \_\_\_\_\_ 1.7 list of individuals responsible for implementation
- \_\_\_\_\_ 1.8 annual goals
- \_\_\_\_\_ 1.9 short term objectives
- \_\_\_\_\_ 1.10 criteria, evaluation procedures, and projected completion dates of short term objectives

**PROCEDURAL COMPONENTS:  
(CONTINUED)**

\_\_\_\_\_ 1.11 evidence of annual review

1.12 IEP meeting participants (name and position)

\_\_\_\_\_ a) representative of the public agency/district, other than the child's teacher, who is qualified to provide, or supervise the provision of, special education

\_\_\_\_\_ b) special education teacher(s) responsible for implementing IEP

\_\_\_\_\_ c) parent(s)/educational advocate(s)

\_\_\_\_\_ d) student (if appropriate)

**ADDITIONAL PROCEDURAL COMPONENTS:**

\_\_\_\_\_ e) social worker

\_\_\_\_\_ f) school psychologist

\_\_\_\_\_ g) regular education teacher responsible for implementation of IEP goals

\_\_\_\_\_ h) other(s) \_\_\_\_\_

\_\_\_\_\_ 1.13 attempt to involve parent(s)/educational advocate(s) (signature and/or documentation of letters, notes, phone calls, etc.)

\_\_\_\_\_ 1.14 evidence of IEP development prior to placement

**PART 2**

**SUBSTANTIVE:**

ITEM FOUND (√)  
ITEM NOT FOUND (0)

2.1 Annual goals (number)

A) Academics

- \_\_\_ 1. reading
- \_\_\_ 2. arithmetic/math
- \_\_\_ 3. spelling/english
- \_\_\_ 4. written language
- \_\_\_ 5. science
- \_\_\_ 6. social studies
- \_\_\_ 7. other \_\_\_\_\_

B) Behavior (see Part 3 [Congruence] for descriptors)

- \_\_\_ 1. behavior (overt)
- \_\_\_ 2. social/emotional (covert)
- \_\_\_ 3. environmental
- \_\_\_ 4. other \_\_\_\_\_

C) Other

- \_\_\_ 1. pre-vocational/vocational
- \_\_\_ 2. speech/language
- \_\_\_ 3. self-help
- \_\_\_ 4. psycho-motor

2.2 Parent(s)/educational advocate(s) (if present)

- \_\_\_ a) signed as IEP team or committee member
- \_\_\_ b) signed in acceptance of IEP
- \_\_\_ c) signed in acceptance of placement
- \_\_\_ d) evidence of copy given to parent(s)/educational advocate(s)
- \_\_\_ e) failed to sign

2.3 Placement of IEP document

- \_\_\_ a) classroom
- \_\_\_ b) central office
- \_\_\_ c) other \_\_\_\_\_

2.4 Evidence of IEP revision (other than short term objectives)

- \_\_\_\_\_ a) annual
- \_\_\_\_\_ b) semi-annually
- \_\_\_\_\_ c) other intervals as specified \_\_\_\_\_

2.5 Evidence of monitoring short term objectives

- \_\_\_\_\_ a) at preset time intervals (indicate) \_\_\_\_\_
- \_\_\_\_\_ b) as STOs are met

**ADDITIONAL SUBSTANTIVE COMPONENTS:**

2.6 Evidence of short term objectives met (number)

A) Academics

- \_\_\_\_\_ 1. reading
- \_\_\_\_\_ 2. arithmetic/math
- \_\_\_\_\_ 3. spelling/english
- \_\_\_\_\_ 4. written language
- \_\_\_\_\_ 5. science
- \_\_\_\_\_ 6. social studies
- \_\_\_\_\_ 7. other \_\_\_\_\_

TOTAL \_\_\_\_\_

B) Behavior (see Part 3 [Congruence] for descriptors)

- \_\_\_\_\_ 1. behavior (overt)
- \_\_\_\_\_ 2. social/emotional (covert)
- \_\_\_\_\_ 3. environmental
- \_\_\_\_\_ 4. other \_\_\_\_\_

TOTAL \_\_\_\_\_

C) Other

- \_\_\_\_\_ 1. pre-vocational/vocational
- \_\_\_\_\_ 2. speech/language
- \_\_\_\_\_ 3. self-help
- \_\_\_\_\_ 4. psycho-motor

TOTAL \_\_\_\_\_

2.7 Number of minutes per week with non-handicapped students

- \_\_\_\_\_ a) regular class placement
- \_\_\_\_\_ b) physical education
- \_\_\_\_\_ c) other \_\_\_\_\_

PART 3

CONGRUENCE

PRESENT LEVEL OF PERFORMANCE / IEP GOAL CONGRUENCE

ITEM FOUND (✓)  
ITEM NOT FOUND (0)  
CONGRUENCE / INCONGRUENCE - MARK WITH (X)

3.1

Present Level of Performance      IEP Goal      Congruence      Incongruence  
\_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_ or \_\_\_\_\_

Behavior (overt)  
(e.g., compliance, verbal and physical aggression, temper tantrums, impulse control, verbalizations, etc.)

Monitor  
[ ]

3.2

Present Level of Performance      IEP Goal      Congruence      Incongruence  
\_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_ or \_\_\_\_\_

Social/Emotional (covert)  
(e.g., self-esteem, self-concept, responsibility, independence, self-confidence, attitude, interpersonal relationships, talking with others, anxiety, adjustment to change, etc.)

Monitor  
[ ]

3.3

Present Level of Performance	IEP Goal	Congruence	Incongruence
_____	+ _____	= _____	or _____

Environmental  
(e.g., structure, clear rules, time-out, rewards and consequences, teacher control, etc.)

Monitor  
[ ]

3.4

Present Level of Performance	IEP Goal	Congruence	Incongruence
_____	+ _____	= _____	or _____

Academic  
(e.g., reading, math, spelling, english, social studies, etc., adapt materials to instructional need, adjust level of materials, maintaining grades in reg. classes, etc.)

Monitor  
[ ]

3.5

Present Level of Performance	IEP Goal	Congruence	Incongruence
_____	+ _____	= _____	or _____

Prevocational/vocational  
(e.g., attendance, on-task, assignment completion, vocational, career development, alternative education program, survival skills, etc.)

Monitor  
[ ]

### 3.6

Present Level of Performance      IEP Goal      Congruence      Incongruence  
\_\_\_\_\_      + \_\_\_\_\_      = \_\_\_\_\_      or \_\_\_\_\_

#### Speech/Language

(e.g., articulation, vocal abuse, fluency, language [i.e., receptive & expressive], vocabulary, linguistic concepts [e.g., big/small, hot/cold, etc.])

Monitor

[ ]

### 3.7

Present Level of Performance      IEP Goal      Congruence      Incongruence  
\_\_\_\_\_      + \_\_\_\_\_      = \_\_\_\_\_      or \_\_\_\_\_

#### Psycho-motor

(e.g., gross motor [i.e., jumping, throwing, kicking, running], fine/perceptual motor [i.e., drawing, grasp patterns, using scissors, tactile discrimination, body awareness, etc.])

Monitor

[ ]

### 3.8

Present Level of Performance      IEP Goal      Congruence      Incongruence  
\_\_\_\_\_      + \_\_\_\_\_      = \_\_\_\_\_      or \_\_\_\_\_

#### Self-Help

(e.g., toileting, dressing, eating, safety, personal hygiene/health, etc.)

Monitor

[ ]

APPENDIX B

Summary of Substantive Component Statistics

Summary Statistics for Total Group  
(N = 120)

<u>Number of Annual Goals</u>	Mean	S D	Min. Value	Max. Value
Reading	.59	.63	00	3.0
Arithmetic/Math	.47	.69	00	3.0
Spelling/English	.62	.73	00	3.0
Science	.02	.13	00	1.0
Social Studies	.01	.09	00	1.0
Other	.22	.48	00	2.0
Behavior	.83	.01	00	3.0
Social/Emotional	.59	.87	00	3.0
Environmental	.02	.13	00	1.0
Other	.01	.09	00	1.0
Prevocational/Vocational	.11	.36	00	2.0
Speech/Language	.57	.77	00	3.0
Self-help	.17	.13	00	1.0
Psycho-motor	.07	.39	00	3.0

<u>Short-Term Objs Met</u>	Mean	S D	Min. Value	Max. Value
Reading	.32	1.2	00	10.
Arithmetic/Math	.21	.72	00	5.0
Spelling/English	.16	.57	00	4.0
Science	00	00	00	00
Social Studies	00	00	00	00
Other	.04	.38	00	4.0
Behavior	.12	.51	00	4.0
Social/Emotional	.03	.26	00	2.0
Environmental	00	00	00	00
Other	00	00	00	00
Prevocational/Vocational	.01	.09	00	1.0
Speech/Language	.01	.09	00	1.0
Self-help	00	00	00	00
Psycho-motor	.01	00	00	1.0

Summary Statistics for Behavioral Disorders  
n = 60

<u>Number of Annual Goals</u>	Mean	S D	Min. Value	Max. Value
Reading	.42	.59	00	3.0
Arithmetic/Math	.37	.69	00	3.0
Spelling/English	.45	.67	00	3.0
Science	.03	.18	00	1.0
Social Studies	.02	.13	00	1.0
Other	.18	.43	00	2.0
Behavior	.53	.95	00	3.0
Social/Emotional	.12	.94	00	3.0
Environmental	.03	.18	00	1.0
Other	.02	.13	00	1.0
Prevocational/Vocational	.10	.35	00	2.0
Speech/Language	.65	.87	00	3.0
Self-help	.02	.13	00	1.0
Psycho-motor	.10	.40	00	2.0

<u>Short-Term Objs. Met</u>	Mean	S D	Min. Value	Max. Value
Reading	.22	.32	00	1.0
Arithmetic/Math	.03	.26	00	2.0
Spelling/English	.12	.58	00	4.0
Science	.00	.00	00	0.0
Social Studies	.00	.00	00	0.0
Other	.08	.53	00	4.0
Behavior	.18	.65	00	4.0
Social/Emotional	.07	.36	00	2.0
Environmental	.00	.00	00	0.0
Other	.00	.00	00	0.0
Prevocational/Vocational	.00	.00	00	0.0
Speech/Language	.00	.00	00	0.0
Self-help	.00	.00	00	0.0
Psycho-motor	.00	.00	00	0.0

Summary Statistics for Learning Disability  
n = 60

<u>Number of Annual Goals</u>	Mean	S D	Min. Value	Max. Value
Reading	.77	.78	00	3.0
Arithmetic/Math	.57	.62	00	3.0
Spelling/English	.80	.67	00	3.0
Science	00	.75	00	00
Social Studies	00	00	00	00
Other	.27	00	00	2.0
Behavior	.13	.52	00	2.0
Social/Emotional	.07	.39	00	2.0
Environmental	00	.31	00	00
Other	00	00	00	00
Prevocational/Vocational	.12	00	00	2.0
Speech/Language	.50	.37	00	3.0
Self-help	.02	.65	00	1.0
Psycho-motor	.05	.13	00	3.0

<u>Short-Term Objs. Met</u>	Mean	S D	Min. Value	Max. Value
Reading	.42	1.0	00	5.0
Arithmetic/Math	.38	.96	00	5.0
Spelling/English	.20	.55	00	2.0
Science	00	00	00	00
Social Studies	00	00	00	00
Other	00	00	00	00
Behavior	.07	.31	00	2.0
Social/Emotional	00	00	00	00
Environmental	00	00	00	00
Other	00	00	00	00
Prevocational/Vocational	.02	.13	00	1.0
Speech/Language	.02	.13	00	1.0
Self-help	00	00	00	00
Psycho-motor	.02	.13	00	1.0

Summary Statistics for Self-Contained  
n = 60

<u>Number of Annual Goals</u>	Mean	S D	Min. Value	Max. Value
Reading	.65	.58	00	3.0
Arithmetic/Math	.53	.72	00	3.0
Spelling/English	.68	.79	00	3.0
Science	00	00	00	00
Social Studies	00	00	00	00
Other	.20	.44	00	2.0
Behavior	.10	.11	00	3.0
Social/Emotional	.77	1.0	00	3.0
Environmental	.03	.18	00	1.0
Other	.02	.13	00	1.0
Prevocational/Vocational	.20	.48	00	2.0
Speech/Language	.43	.62	00	3.0
Self-help	.01	.13	00	1.0
Psycho-motor	.05	.29	00	2.0

<u>Short-Term Objs. Met</u>	Mean	S D	Min. Value	Max. Value
Reading	.52	.1.6	00	3.0
Arithmetic/Math	.18	.65	00	3.0
Spelling/English	.20	.68	00	3.0
Science	00	00	00	00
Social Studies	00	00	00	00
Other	.07	.52	00	2.0
Behavior	.12	.42	00	3.0
Social/Emotional	.03	.26	00	3.0
Environmental	00	00	00	1.0
Other	00	00	00	1.0
Prevocational/Vocational	.02	.13	00	2.0
Speech/Language	.02	.13	00	3.0
Self-help	00	00	00	1.0
Psycho-motor	00	00	00	2.0

Summary Statistics for Resource  
n = 60

<u>Number of Annual Goals</u>	Mean	S D	Min. Value	Max. Value
Reading	.53	.68	00	3.0
Arithmetic/Math	.40	.64	00	3.0
Spelling/English	.57	.67	00	3.0
Science	.03	.18	00	1.0
Social Studies	.02	.13	00	1.0
Other	.25	.51	00	2.0
Behavior	.57	.81	00	3.0
Social/Emotional	.42	.70	00	3.0
Environmental	00	00	00	00
Other	00	00	00	00
Prevocational/Vocational	.02	.13	00	1.0
Speech/Language	.72	.88	00	3.0
Self-help	.02	.13	00	1.0
Psycho-motor	.10	.48	00	3.0

<u>Short-Term Objs. Met</u>	S D	S D	Min. Value	Max. Value
Reading	.12	.45	00	2.0
Arithmetic/Math	.23	.79	00	5.0
Spelling/English	.12	.42	00	2.0
Science	00	00	00	00
Social Studies	00	00	00	00
Other	.02	.13	00	1.0
Behavior	.13	.58	00	4.0
Social/Emotional	.03	.26	00	2.0
Environmental	00	00	00	00
Other	00	00	00	00
Prevocational/Vocational	00	00	00	00
Speech/Language	00	00	00	00
Self-help	00	00	00	00
Psycho-motor	.02	.13	00	1.0