A FUNCTIONAL ANALYSIS OF THE DEVELOPMENTAL ASSESSMENT PROTOCOL FOR THE SEVERELY HANDICAPPED

By

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The purpose of this study was to conduct a functional analysis of the Developmental Assessment Protocol for Severely Handicapped (DAPSH). The Developmental Assessment Protocol was designed as a screening and assessment instrument to be used to help pinpoint a child's present level of functioning in five behavioral domains. Through use of the DAPSH, a child's level of development may be ascertained in the areas of daily living skills, social/emotional behavior, sensory and motor function, language development, and academic ability. The protocol was designed to serve as a primary evaluation tool for initial and ongoing evaluation. Teaching tasks may be planned based on the child's functioning as measured by the protocol; therefore, the DAPSH is considered a tool for programming and intervention in addition to assessment.
The study had two facets. Part one of the study was designed to investigate the internal consistency of the DAPSH and the relationship between the DAPSH and two other measures frequently used with severely handicapped children, either the Bayley Scales of Infant Development (Bayley) or the Developmental Activities Screening Inventory (DASI). Part two of the study was designed to examine the utility of the DAPSH in developing Individualized Educational Programs (IEPs) as mandated by Public Law 94-142. This portion of the study compared the programming components of IEPs written by two groups of teachers. Teachers in group one used the DAPSH as the evaluation tool. Teachers in group two used the Preschool Attainment Record (PAR) as the evaluation tool. The PAR has been a widely used evaluation instrument designed for assessing preschool children. According to the author of the PAR, the instrument provides a record of performance which may be used as a baseline for educational planning.

Subjects for part one of the study were eight severely impaired/multiply handicapped children from two public school classrooms and seven severely impaired/multiply handicapped children from two classrooms in a residential institution for retarded individuals. Subjects for part two of the study were 28 special education teachers with experience in teaching severely impaired/multiply handicapped children.

In part one of the study, the severely impaired/multiply handicapped students were tested by an experienced evaluator who
used the DAPSH and either the Bayley or the DASI. Analysis of the data indicated that the age scores derived from the DAPSH were significantly related to the age scores derived from either the Bayley or the DASI. Analysis of the odd-even reliability of the items on the DAPSH provided initial evidence that the items on the DAPSH were internally consistent, which is one measure of the reliability of an instrument.

In part two of the study, the IEPs written by both groups of teachers were rated by professionals who had experience with severely impaired children. Analysis of the ratings indicated that there were no significant differences between the IEP ratings of the two groups of teachers. Further analysis provided evidence that three demographic factors, education, sex, and age, were significant predictors of IEP rating.
CHAPTER I
INTRODUCTION

In the past, severely impaired/multiply handicapped children were considered primarily custodial care problems and little emphasis was placed on assessment (Faris, Anderson, & Greer, 1976). Today, the expansion and enrichment of existing educational services and the development of new educational services for severely handicapped children has resulted in a new interest in assessment procedures. In a recent survey of professionals working with severely handicapped children, a high priority was given to the need for further training in assessment techniques (Lynch, Shoemaker, & White, 1976). These assessment techniques have included competency in identifying levels of current child performance, developing precise instructional objectives, and measuring child progress (Haring, 1977). In the present study an attempt was made to respond to the needs of professionals by investigating the utility of a newly designed assessment tool, the Developmental Assessment Protocol for Severely Handicapped (Dykes, 1977).

The purpose of this study was to conduct a functional analysis of the experimental edition of the Developmental Assessment Protocol for Severely Handicapped (DAPSH). The DAPSH was designed as a
comprehensive developmental testing instrument for use in identifying the current level of a child's performance across five behavioral domains: activities of daily living, sensory/motor, language, social/emotional, and academics. Behaviors from birth through eight years of age may be measured by the scales. The protocol is scored using seven criteria for responses which range from task resistive to complete independence. The DAPSH was designed for use as a screening and comprehensive assessment instrument as well as a tool for programming and intervention.

Over the past several years, there has been an increased number of articles in the literature concerning assessment and intervention of severely handicapped children. One reason for this increase has been that the standard diagnostic and evaluation tools employed with mildly handicapped children have been of little use to educators of severely handicapped children. In addition, the widely used social maturity tests at the preschool level have been found to be inadequate for assessing severely handicapped children. The growth and developmental patterns of severely handicapped children have been found to be characterized by large gaps in development and widely scattered skills which make assessment complex (Stainback, Stainback, & Maurer, 1976). Since teachers of severely handicapped children have been presented with complex assessment problems, there has been a need for additional assessment guidelines (Cohen, Gross, & Haring, 1977).
For the severely impaired multiply handicapped child, assessment has been a critical component in the provision of appropriate educational services. Accurate assessment has been a prerequisite of sound educational programming. The purpose of educational assessment has been to develop a set of precise instructional objectives with which to begin the child's education. The end product of this assessment has been mandated to be an Individualized Education Program (Sailor & Haring, 1977). There has been a dissatisfaction with traditional assessment procedures and a demand for more functional assessment measures that have been designed to be used with severely handicapped children (Faris, Anderson, & Greer, 1976). An investigation concerned with the utility of the DAPSH with severely handicapped children would be useful to professionals who work with severely handicapped children and have no tools available which provide for the comprehensive recording of developmental data in a manner which allows the child to be given various degrees of credit for emerging skills.

Statement of the Problem

The problem in this study was to determine the utility of the DAPSH. In part one, the internal consistency of the developmental age scores derived from the DAPSH was examined and the relationship between the developmental age scores derived from the DAPSH and the developmental age scores derived from either the Bayley or the
DASI was investigated. In part two, the utility of the DAPSH when used to formulate the programming aspects of Individualized Education Programs (IEPs) was examined. In this portion of the study the programming components of IEPs written by teachers using either the DAPSH or the Preschool Attainment Record (Doll, 1966a) as the evaluation tool were compared. The Preschool Attainment Record (PAR) has been a widely used evaluation instrument designed for assessing preschool level skills of children. According to Doll (1966a) the PAR was designed to provide a record of performance which may be used as a baseline for educational planning.

Questions Under Investigation

The following questions were addressed in this study:

1. Are the developmental age scores derived from the DAPSH consistent as measured by odd-even reliability?

2. What is the relationship between age scores derived from the DAPSH and age scores derived from two other tests frequently used with severely handicapped children, either the Bayley or the DASI?

3. Are there differences in quality and content between the programming components of Individualized Education Programs written using the DAPSH as the evaluation tool and those written using the PAR as the evaluation tool?

The internal consistency and the concurrent validity of the DAPSH were addressed in questions one and two. The functional utility of the DAPSH was addressed in question three.
Definition of Terms

Two terms, "severely impaired/multiply handicapped child" and "Individualized Education Programs," were used extensively in this study. These terms are defined as follows.

Severely Impaired/Multiply Handicapped Child--any individual between the ages of 3 and 18 who was functioning at a general developmental level of half or less than half the level expected on the basis of chronological age in at least two areas of development. Examples of areas of development were motor skills, language skills, etc. In addition, the individual had two or more primary handicaps including mental, visual, auditory, emotional, language, and/or physical impairments and exhibited learning and/or behavior problems that required a carefully monitored, modified, and controlled learning environment to adequately meet the educational needs as reported by the teacher.

Individualized Education Program (IEP)--a written statement developed for a handicapped child which conformed to the requirements of Public Law 94-142. The programming components of the IEP included a statement of the child's current levels of performance, annual goals, and short term instructional objectives.

Delimitations

The study was delimited in several ways. First, the study was restricted geographically to one county in Florida. Secondly, the pupils for part one of the study came from two public school classrooms in a residential institution for retarded individuals. Third,
participants in part two of the study included teachers of severely handicapped children who were employed by two public schools and a school in a residential institution and graduate students who had previous experience in teaching severely handicapped children. Finally, only the programming components of IEPs were examined in part two of the study.

**Limitations**

Due to school policies and teacher contracts, participation of teachers and children in the study was voluntary. It was possible that teachers and parents of pupils who refused to participate limited the representativeness of the samples. The heterogenous impairments of severely impaired/multiply handicapped children and the small sample size limited the extent to which the results can be applied to all severely handicapped children.

The teachers in part two of the study formulated a sample IEP on a Friday afternoon in a room which provided inadequate space for comfortable writing. A problem with this evaluation was the difficulty in determining whether a teacher's response in this situation corresponded to how he/she would have responded in the normal classroom situation.

**Organization of the Study**

In Chapter I, the problem of assessment and programming was discussed relative to severely handicapped children. In Chapter
II, the problem has been discussed in detail within the context of past research. The actual procedures involved in the study have been presented in Chapter III. The results have been presented in Chapter IV with a discussion of the results following in Chapter V.
CHAPTER II
REVIEW OF RELATED LITERATURE

Three bodies of literature were found to be relevant to the present study and were reviewed in this chapter. The focus of this review was on literature concerned with screening severely handicapped children, comprehensive assessment of severely handicapped children, and formulating Individualized Education Programs (IEPs) for severely handicapped children.

Screening Severely Handicapped Children

Screening has become an essential component in the process of providing educational services to severely handicapped children (Sailor & Horner, 1976). Screening instruments take a relatively short time to complete and have been designed to provide a general profile of the child's strengths and weaknesses, gaps in development, emerging skills, and general child needs. According to DuBose (1976), screening instruments have been used in educational settings to give the teacher an idea of where to begin and what to do while awaiting comprehensive assessment. Other uses of screening instruments have been to provide a general estimate of
potential services required, to provide information about the types of evaluations needed, and to provide information about what professionals may be needed to provide assessment and programming services.

Screening instruments frequently reported in the literature, that have been used with severely handicapped children, will be reviewed in this chapter. Three normative tests which have been used extensively with severely handicapped children are the Vineland Social Maturity Scale (Doll, 1947), the Preschool Attainment Record (Doll, 1966a), and the Bayley Scales of Infant Development (Bayley, 1969). These instruments have been reviewed first.

The Vineland Social Maturity Scale, one of the oldest assessment scales, has been used extensively with severely handicapped children. The items on the scale were designed to sample behaviors from six domains; self-help, self-direction, locomotion, occupation, communication, and social relationships. The age range of the scale was birth to 17 years. The scale was standardized on a sample of 620 subjects.

The scale has been criticized because it contains only a few items at each age level and because the instrument was standardized on a geographically isolated population (Robinson & Robinson, 1976). Another criticism has been that the score for each item was determined subjectively through an interview with an informant (Sailor & Horner, 1976). These weaknesses have made it difficult
to develop precise educational objectives from scoring and interpreting the Vineland Social Maturity Scale and because items for all subscales were not available at all levels, some scales were much more sensitive at certain ages.

The Preschool Attainment Record (Doll, 1966a) was designed as both a refinement and a downward extension of the information gained through the use of the Vineland Scales. The Preschool Attainment Record was designed to measure a child's growth and development from birth to seven years of age. Like the Vineland, an informant interview has been utilized in the reporting system to assess three areas of behavior; physical, social, and intellectual development (Delp, 1971). The PAR contains 112 items or 16 items per age level. Also, like the Vineland, the items have been designed to be scored plus (+) if the child's performance has fully satisfied the item definition, plus/minus (±) if the child's performance was marginal, and minus (-) if the child's performance was not well established. The scoring of the PAR has been designed so that the examiner does not test the child but attempts to obtain a description of the child's ordinary or usual behavior from the informant. The child's behavior should be directly observed on representative items to confirm the results of the interview.

The author reported preliminary research on standardizing the instrument but it has not yet been normatively standardized. Doll (1966a) reported that the PAR was designed to be used as a
baseline for educational planning and constitutes the basis of a home or school intervention schedule or a preschool curriculum.

The PAR was reported to be a basic inventory of the behaviors of infants and young children. Motor and social as well as intellectual competencies were included on the scale and responses requiring expressive language have been minimized. The PAR has been particularly useful in evaluating the developmental strengths and weaknesses of young children with physical, emotional, or culturally based developmental disabilities. It was intended to be used to determine the developmental level of children for whom verbal intelligence tests were not appropriate. More specifically, it has been adapted for testing deaf, blind, or aphasic children; children with cerebral palsy or mental retardation; and children with autism or schizophrenia. It has the advantage over standardized intelligence tests of having included motor skills, social competencies, and creativity, as well as intellectual abilities (Collard, 1972a).

The Bayley Scales of Infant Development (Bayley, 1969) consist of a mental scale of 103 items and a motor scale of 81 items. The scales have been designed to measure growth and development from birth to 30 months of age. The instrument was developed primarily for clinical and research use. According to Holden (1972), the Bayley has been valuable in filling a long-standing need for a well standardized and reliable instrument to assess the developmental progress of infants. It has been
frequently used by psychologists who specialize in infant testing (Magrab, 1976). It has not been recommended for classroom use because of the restricted age range measured, the expense of the test kit, and the lack of items to measure a wide range of domains.

The scales were standardized using a sample of 1,262 infants and children ranging from two to 30 months of age. The subjects were drawn from each major geographical area in the country to insure national representation in the norm sample. The split half reliability procedure was utilized to investigate the internal consistency of the items on the Bayley. The split-half reliability coefficients reported for the 14 age groups tested ranged from .81 to .93 (median .88) on the Mental Scale and from .62 to .92 (median .84) on the Motor Scale.

The Bayley Scales have been useful with exceptional children because age equivalency scores have been obtained regardless of the child's chronological age (Bayley, 1969). Overall, the Bayley has been a carefully standardized, well planned, and comprehensive measure of infant development (Collard, 1972b).

The use of normative tests represents one orientation to screening severely impaired/multiply handicapped children. Another orientation frequently described in the literature has been criterion referenced testing. Criterion referenced tests have not been normatively standardized; therefore, they cannot be used to explain or predict change. Criterion referenced tests
have been found to be useful in measuring an individual's rate of change over time. Two criterion referenced screening tests of cognitive development were specifically designed for use with severely handicapped children. They were the Developmental Activities Screening Inventory (DuBose & Langley, 1976) and Ordinal Scales of Psychological Development (Uzgiris & Hunt, 1975).

The Developmental Activities Screening Inventory (DASI) was developed as an informal screening measure for children functioning between six and 60 months of age. A variety of skills representative of early cognitive development have been tapped on the 55 item test. Most of the items on the test were non-verbal so children with auditory or language disorders were not severely penalized. In addition, adaptations for administering the screening inventory to visually impaired children have been described. The test was designed to be given by classroom teachers and the results have been used to formulate a simple instructional program in the area of cognitive development while awaiting comprehensive assessment.

Several studies have been conducted by the authors to determine the relationship between the DASI and other concurrent measures (DuBose, 1976). In one study of 45 multiply handicapped children with known language delays, the DASI correlated positively (.91) with either the Cattell Infant Intelligence Scale (Cattell, 1940) or the Merrill-Palmer Scale of Mental Tests (Stutsman, 1948).
The Cattell Scale was used with children who were functioning below 30 months of age in overall development. The Merrill-Palmer Scale was used with children who were functioning above 30 months of age in overall development. A coefficient of .19 was obtained when the DASI was correlated with the receptive scale of either the Receptive-Expressive-Emergent Language Scale (Bzoch & League, 1975) or the Preschool Language Scale (Zimmerman, Steiner, & Evatt, 1969). The intent of the test design which was not to penalize children with language delays, was confirmed by these findings. The DASI, Preschool Attainment Record (PAR) (Doll, 1966a), and the Denver Developmental Screening Test (DDST) (Frankenburg, Dodds, & Fandal, 1970) were given to 42 developmentally delayed and non-delayed children. The correlation between the DASI and the PAR was .97, and the correlation between the DASI and the DDST was .95.

The Ordinal Scales of Psychological Development (Uzgiris & Hunt, 1975) were constructed on the basis of Piaget's stage theory of cognitive development. The reliability and validity of the scales were examined using data collected from 63 severely and profoundly retarded children between 42 and 126 months of age. Thirty children were living in residential facilities and 33 children were living at home and attending day schools. All children were assessed on all six scales of the instrument. Inter-examiner and test-retest reliability coefficients were computed and a scalogram analysis was conducted. The findings
have provided initial evidence concerning the reliability and validity of using the scales with severely and profoundly retarded children (Kahn, 1976).

The Ordinal Scales of Psychological Development and the DASI are examples of new screening instruments which hold promise for meeting the need of improving screening techniques for severely handicapped children. These screening instruments have been found to be useful as alternatives to the traditional intellectual assessment instruments used with severely impaired/multiply handicapped children.

Another recently developed screening instrument is the TARC System (Sailor, 1975; Sailor & Mix, 1975). The acronym TARC was formed from the words "Topeka Association for Retarded Citizens." Unlike the DASI and the Ordinal Scales of Psychological Development, which measured cognitive development, the TARC assessment system measured several developmental skills which included self-help, motor, communication, and social skills. The TARC assessment system was designed to be used as a short-form assessment tool in the development of instructional objectives and in curriculum selection. The assessment system has been especially useful for untrained personnel because it provided a simple procedure for initiating intervention with severely handicapped children. The author reported that research has been underway regarding the reliability and validity of the instrument.

Another screening test that was designed to measure a range of developmental skills was the Denver Developmental Screening
Test (Frankenburg et al., 1970). The purpose of the test was to quickly detect developmental delays in the first six years of life. The test has 105 items arranged along the developmental continuum in one of four categories; personal-social, fine motor-adaptive, language, and gross motor.

The test has been widely used by practitioners in the fields of medicine, allied health, and education. It has the assets of easy administration, scoring, and interpretation which have made its use practical in many settings.

The Denver Developmental Screening Test (DDST) has been useful with severely handicapped children because it has permitted flexibility in timing, it has been adaptable in various situations, and it has provided an overall profile of development (Banus, 1971). The DDST has been limited by its short length and by the pass-fail scoring system. These features have made the scale insensitive to small changes in behavior. With such a small number of items in each category, a child's developmental age score has been found to decline as much as 1-2 years in development if he missed one or two items, especially at the upper age ranges.

The DDST was standardized on 1,036 normal children between the ages of two weeks and 6.4 years. The authors reported a test-retest reliability of 95.8% and a reliability among examiners of 90%. When the DDST, the Stanford Binet, and the Bayley Scales of Infant Development were administered to a sample of 236 children, a high degree of agreement between the measures was
obtained. The DDST has been criticized by Nugent (1976) as relatively inefficient in detection of preschool children with I.Q.'s below 70.

Several conclusions may be drawn from this review of screening instruments. First of all, screening has become a critical element in identification and initial assessment of severely handicapped children. For the educator, administration of screening tests has become one of the initial steps in individual program development. Several new screening devices for the severely handicapped have been developed in response to the need for new screening technology.

A primary weakness of screening instruments has been observed in the fact that they have often been insensitive to small changes in behavior due to small numbers of items and the pass-fail scoring systems. This weakness has made it difficult to pinpoint emerging skills. Finally, screening instruments have been erroneously used in place of comprehensive assessment procedures; therefore, formulating precise objectives and evaluations of child progress has been impossible or highly inaccurate.

Comprehensive Assessment of Severely Handicapped Children

In contrast with screening, administration and interpretation of comprehensive assessment instruments have been found to be complex
and time consuming. Ideally, a comprehensive assessment would contain measures designed to perform several functions. A comprehensive assessment should identify the child's current skill level, cover a wide range of learning domains, and be presented in a developmental sequence in order to facilitate the formulation of instructional objectives (Sailor & Horner, 1976). According to one model of programming, the educational assessment has resulted in a detailed prescription written by a diagnostic team which then becomes the child's curriculum (Bourgeault, Harley, DuBose, & Langley, 1977). Recent extensive reviews of screening and comprehensive assessment instruments used with young handicapped children (Friedlander, Sterritt, & Kirk, 1975; Johnston & Magrab, 1976; Knoblock & Pasamanick, 1974; Meier, 1976) have stressed the importance of comprehensive developmental assessment for the purpose of maximizing educational services.

There are a number of comprehensive assessment instruments commonly used with severely impaired multiply handicapped children. Three of these instruments were similar in test development and standardization. The AAMD Adaptive Behavior Scale (Nihira, Foster, Shellhaas, & Leland, 1974), the Balthazar Scales of Adaptive Behavior (Balthazar, 1971, 1973), and the Camelot Behavior Checklist (Foster, 1974) were all designed to provide a comprehensive assessment of adaptive behavior, and they all have been standardized on institutional populations.

The AAMD Adaptive Behavior Scale (Nihira et al., 1974) has been one of the most widely used assessment instruments. The
scale items were divided into two categories: developmental behaviors and maladaptive behaviors. Since the scale was originally developed and standardized on a population of institutionalized retardates, many of the maladaptive behaviors typical of institutionalized retardates have been included in the scales. The inclusion of these items has limited the extent to which the scores derived from the scales can be generalized to noninstitutional populations. The recommended uses of the scale have included identification, individual comparison, program development, program evaluation, and research. Like the Vineland and the PAR, the score for each item has been determined subjectively through informant interview techniques.

The original test standardization was based on a wide range of institutionalized, retarded subjects between three and 69 years of age. The scale has also been standardized on public school children (Lambert, Windmiller, Cole, & Figueroa, 1975).

The Balthazar Scales of Adaptive Behavior (Balthazar, 1971, 1973) differed from the AAMD Scale because the scoring system involved direct observation of behavior. Like the AAMD scale, the Balthazar was divided into two sections: scales of functional independence and scales of social adaptation. Standardization data were obtained from 739 ambulant subjects, five to 57 years of age, who lived at the Central Wisconsin Colony between 1964 and 1969. No normal subjects were included in the standardization sample for the Balthazar.
The Camelot Behavior Checklist (Foster, 1974) was designed with three distinctive features: (1) a large number of items, (2) items that can be objectively stated, and (3) items that were arranged in increasing order of difficulty. The arrangement of items was determined by computing the percentage of the original sample of 624 mentally retarded individuals who needed training on the behavior.

The Camelot consists of ten checklists which have been reported as measures of specific social and adaptive skills. The items have been designed to be scored on a pass-fail basis and marked on a checklist profile chart which may be used to determine where training should start with an individual.

In addition to the standardized instruments reviewed above, there are a number of criterion referenced instruments that have been widely used with severely handicapped children. Four of these instruments have been reviewed: the Learning Accomplishment Profile (Sanford, 1974), the Behavioral Characteristics Progression (1973), the Developmental Pinpoints (Cohen, Gross, & Haring, 1977), and the Portage Guide to Early Education Checklist (Shearer, Billingsley, Frohman, Hilliard, Johnson, & Shearer, 1976).

The Learning Accomplishment Profile, LAP, (Sanford, 1974) was designed to provide teachers and paraprofessionals with a ready-made teaching sequence in six areas of development: gross motor, fine motor, cognitive, language, social, and self-help skills. The items were designed to be scored on a pass-fail basis.
and the age range is one month to six years. The format of the LAP has enabled the teacher to assess the child in the classroom within the framework of daily activities. This type of instrument has not been used to predict or explain change, but it has been used to measure an individual's rate of change over time.

The Behavioral Characteristics Progression, BCP (1973), is designed as a guide for special educators in individual assessment and instructional development. The test consists of three large fold-out charts which contain 2400 items that have been grouped into numerous behavioral strands. This format was designed to provide a visual display of an individual's profile of development. The items on the strands have been arranged, reportedly, in a developmental sequence but age levels are not specified.

One of the newest comprehensive guides used for classroom assessment of severely handicapped children has been the Developmental Pinpoints (Cohen et al., 1977). The pinpoints consisted of a comprehensive listing of developmental behaviors in seven skill areas; motor, communication, self-help, social interaction, leisure time, readiness, and reinforcement activities. The pinpoints are unique because the items are sequenced to follow a single skill as it developed in a child's repertoire. This format differs from the usual method of grouping skills by age. Due to the large number of pinpoints, this instrument covers each major skill area comprehensively. No research data are available regarding the reliability and validity of the pinpoints.
The Portage Guide to Early Education Checklist (Shearer et al., 1976) was developed by the Portage Project home intervention program which has been serving preschool multiply handicapped children in Wisconsin. The guide has two parts: (1) a developmental checklist which lists sequential behaviors from birth through five years of age in five learning areas, and (2) a set of curriculum cards which match each of the 450 behaviors listed on the checklist. The checklist has been used to pinpoint behaviors and measure change. The cards have been used in establishing individual home training prescriptions.

The Portage Guide is one of the few newly developed assessment and programming systems for which experimental research data are available. Shearer and Shearer (1972) conducted a study that involved children selected randomly from the Portage Project and from local classrooms for disadvantaged preschool children. The Stanford-Binet Intelligence Scale (Terman & Merrill, 1960), the Cattell Infant Scale (Cattell, 1940), and the Developmental Profile (Alpern & Boll, 1972) were given as a posttest. Multiple analysis of covariance was used to control for I.Q., practice effect, and age. The Portage Project children were reported to have made significantly greater gains compared to the group which received classroom instruction. Regression was a possible threat to the validity of this experiment due to the possibility of systematic pretreatment differences between the two groups.

The final instrument reviewed is the DAPSH. It is a comprehensive multiple level assessment instrument that is similar to many
of the presently available comprehensive instruments in several ways: (1) the items have been arranged by age level of development within each developmental area, (2) the instrument was designed to measure behaviors representative of all five areas of observable behavior, and (3) the items have been presented in a series of developmental scales. The DAPSH differs from currently available assessment tools in that it provides a more comprehensive set of pinpoints than other available scales. Also, it was designed to be scored using seven criteria levels per item to identify the specific ability of an individual to perform the skill.

According to Dykes (1977), the purpose of the DAPSH is to provide a profile of an individual's abilities across the areas of growth. The protocol was designed to help pinpoint the present level of functioning in the areas of academic ability, speech and language development, social/emotional behavior, sensory and motor function, and activities of daily living skills. An individual's level of development may be ascertained in each area along a sequential continuum of learning and maturation as related to normal child growth and development. The protocol was designed to serve as a primary evaluation tool for initial and ongoing evaluation. Since specific instructional tasks can be planned based on the protocol, it can also be utilized as a tool for programming and intervention. It may be used by aides and nonprofessional staff members under the direction of a developmental therapist or educator as well as by numerous professionals in fields such as allied health, medicine,
and psychology in addition to educators of severely handicapped children.

Several conclusions can be drawn from this review of assessment instruments. First of all, there is a wide range and variety of instruments available, and no one instrument is effective in all settings for severely handicapped children. Secondly, most of the instruments are scored on a pass-fail system and interpreted using a profile chart format. Finally, there is a need for more field testing and research studies designed to investigate the reliability and validity of these instruments as well as experimental studies designed to test the usefulness of the instruments.

**Individualized Education Programs**

The problems of formulating Individual Education Programs (IEPs) have been closely linked to the problems of adequately assessing severely handicapped children. IEPs have become one of the most controversial issues of Public Law 94-142. One of the most discussed questions concerning IEPs has been the selection of evaluation tools needed to complete the IEP appropriately (Colex & Dunn, 1977).

An appropriate IEP must conform to the requirements of PL 94-142 and is based upon several educational concepts. Ballard and Zettel (1977) reported that the term Individualized Education Program conveyed three important concepts. First,
individualized meant that the IEP had to specify the educational needs of a single child rather than a class or group of children. Second, education meant the IEP was to be limited to the special education and related service elements of the child's education. Third, program meant that the IEP was to be a statement of the program that would actually be provided to the child rather than a plan that provided guidelines for subsequent development of a program. Public Law 94-142 (1975) has specified that for each child the IEP statement must include the following elements:

1. A statement of the child's present levels of educational performance.
2. A statement of annual goals, including short-term instructional objectives.
3. A statement of specific educational services to be provided and the extent to which the child will be able to participate in regular education programs.
4. The projected date for initiation and the anticipated duration of such services.
5. Appropriate objective criteria and evaluation procedures for determining, on at least an annual basis, whether instructional objectives are being achieved.

A recent conference sponsored by the National Association of State Directors of Special Education entitled "Strategies for Planning for the Severely Multiply Handicapped" has noted several critical problems in the area. One of those problems was the
design of individualized education programs and the provision of a multidisciplinary team which was to manage each child (Schipper, Wilson, & Wolfe, 1977). Problems involved in multidisciplinary team management have included the following: costs in time and money in providing various specialists, a lack of communication among professionals on the team, and a lack of appropriate accountability for team members (Beck, 1977; Hart, 1977).

There has also been a need to examine the role of teacher training programs in regard to IEPs. Davies (1977) reported that the greatest impact on professional preparation in the next few years was likely to be the passage of Public Law 94-142. The mandates of the law would require extensive changes in teacher training programs both at the preservice and inservice levels for all teachers. Burke (1976) stated that educators must resist attempts to approve minimum compliance with IEP standards which would not meet children's needs but only add more paperwork. Hawkins-Shepard (1978) reported that although most professionals could readily identify improvements in education for handicapped children as a result of the IEP process, further changes were needed. These changes included easing the problem of the amount of time necessary to develop IEPs and increasing the amount of inservice training which was concerned with IEP development.

Another aspect of IEP development has been in its implications for accountability. The IEP has been considered a basic
management tool for measuring program adequacy and the competency of professional performance (Reynolds, 1978). In such a complex service delivery system as has been required for severely handicapped children, it has become imperative that each professional involved with the child keep detailed information on assessment, daily programming, and progress of the child in a form which can be utilized by other professionals and the child's parents (Dykes, Bullock, & Kelly, 1977). In addition, each professional involved with the child and the child's parents have been given the responsibility for assisting in the development of the IEP and for seeing that the IEP is implemented and evaluated.

The IEP has become the cornerstone of the implementation of Public Law 94-142 and the management tool that parents, educators, and the student can refer to when questions arise concerning educational goals (Abeson & Zettel, 1977; Hayes & Higgens, 1978). For professionals working with severely impaired children, the IEP has presented problems. Due to the multiple impairments of many severely handicapped children, identifying appropriate assessment instruments and goals has been difficult. Organization of a multidisciplinary team has become a problem due to the fact that many specialists have been needed to provide appropriate intervention services. Measuring child progress and setting priorities for services have been other problems related to assessment and IEP development. These difficulties heighten the need for a model to facilitate the formulation of the programming
components of IEPs, especially procedures utilized in writing IEPs for severely impaired/multiply handicapped children.

Summary

There is ample evidence that suggests that it would be appropriate to establish the internal consistency and concurrent validity of the DAPSH. Evidence has also been presented which suggests the need to examine formulation of IEPS for severely handicapped children, especially with regard to assessment procedures used to formulate the programming components of the statement. An attempt to respond to these needs has been made in the present study by conducting a functional analysis of the Developmental Assessment Protocol for Severely Handicapped.
Developing appropriate assessment systems has been identified as a major problem in educating severely impaired/multiply handicapped children. The purpose of this study was to examine the utility of the DAPSH as an assessment instrument and as a tool for teachers to use in developing the programming components of IEPs. Investigators who have examined developmental assessment instruments have used measures of test reliability and validity as well as experimental techniques to determine the utility of the instruments. In this study correlational techniques were used to examine certain aspects of the reliability and validity of the DAPSH. Experimental techniques were used to examine the utility of the DAPSH as a tool for programming. Learning more about the utility of the DAPSH should facilitate the development of an effective assessment tool for use with severely impaired/multiply handicapped children.

The methods and procedures of the study have been presented in Chapter III. This chapter has been divided into five sections which describe the hypotheses, the subjects, the research instrumentation, the procedures, and the data analysis.
Statement of the Hypotheses

To fulfill the purposes of the study, the following hypotheses were tested:

1. No relationship exists between the odd and the even numbered items of the DAPSH as measured by the split-half reliability coefficient.

2. There is no relationship between the developmental age scores of severely impaired/multiply handicapped children derived from the DAPSH and the developmental age scores of the same severely impaired/multiply handicapped children derived from either the Bayley Scales of Infant Development or the Developmental Activities Screening Inventory.

3. There is no difference in the quality and content of the programming components of IEPs written by teachers for severely impaired/multiply handicapped children using the DAPSH as the evaluation tool or the PAR as the evaluation tool.

Hypothesis one and two were designed to measure the credibility of the DAPSH as an assessment tool. Hypothesis three was designed to measure the utility of the DAPSH when used in the formulation of the programming components of IEPs.

Subjects

With respect to hypotheses one and two, subjects were 15 severely impaired/multiply handicapped children who were randomly
selected using a table of random numbers from among 14 pupils enrolled in a public school classroom for profoundly mentally retarded children and 28 pupils enrolled in two classrooms in a residential institution; (1) a classroom for deaf-blind, retarded pupils, and (2) a classroom for multiply handicapped retarded pupils. One subject in the sample was selected from a public school classroom for physically impaired/multiply handicapped children. The subjects ranged in chronological age from 5 years 6 months to 16 years 9 months and all were severely impaired and had multiple handicaps. The primary impairments of the children in the sample were varied. Seven of the children in the sample were handicapped as a result of physical impairments and mental retardation. Four of the children were handicapped as a result of deafness, blindness, and mental retardation. Three of the children were handicapped as a result of mental retardation and either an emotional, visual, or language impairment. One child was not retarded but was severely delayed in physical and language development.

With respect to hypothesis three, subjects were 28 teachers all of whom had experience with severely handicapped children. Nine of the participants were teachers employed by the Alachua County Public Schools in Gainesville, Florida; sixteen of the participants were teachers employed by the Sunland Training Center in Gainesville, Florida; and three of the participants were teachers who were now full time graduate students in the
Special Education Department at the University of Florida. The public school teachers were asked to participate in the study during a meeting with the researcher and the school principal. Teachers from the institutional school were asked to participate in the study by the school principal as an inservice training activity. The graduate students received credit in a college course for their participation in the study. The relevant demographic characteristics of the subjects are presented in Table 1.

Prior to a one day inservice training seminar, during which the data for hypothesis three were collected, each participant was assigned one child to assess during the seminar. Each public school and institutional teacher in the study was assigned one child who was selected randomly from among the children enrolled in their classrooms. The graduate students selected a child from their course practicum site. The participants were told which child they would test and what instrument they would be using during the inservice session.

**Instrumentation**

Five research instruments were used to test the hypotheses of the study. The Bayley and the DASI were utilized as criterion variables in hypothesis two. The PAR was utilized as an independent variable and the IEP Evaluation Checklist as a dependent
Table 1
Demographic Characteristics of Subjects
In the Two Treatment Groups

<table>
<thead>
<tr>
<th>Variables</th>
<th>Group Using DAPSH</th>
<th>Group Using PAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Females</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-23</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>24-29</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>30-35</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>36 or older</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor's</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Master's</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Post Master's</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Teaching Experience with</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Severely Handicapped</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 year</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>2 years</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3 years</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>4 or more years</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Present Position</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public School</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Institutional School</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>None</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
variable in hypothesis three. The DAPSH was utilized as a variable in all hypotheses of the study.

**Bayley Scales of Infant Development**

The Mental Scale of the Bayley Scales of Infant Development (Bayley, 1969) was used as a criterion variable with respect to hypothesis two. The instrument was described in detail in Chapter two.

**Developmental Activities Screening Inventory**

The Developmental Activities Screening Inventory (DuBose & Langley, 1976) was utilized as a criterion variable with respect to hypothesis two. The DASI was described in detail in Chapter two.

**Preschool Attainment Record**

The Preschool Attainment Record (Doll, 1966a) was used as an independent variable with respect to hypothesis three. The PAR was designed to be administered using standardized interview reporting with a primary caregiver who is familiar with the child's behavior. In addition, the author of the PAR recommended that the evaluator observe the child's behavior through a direct assessment. In the present study, the participants who utilized the PAR in completing a posttest IEP were instructed to directly observe the child's performance as part of the assessment process. The PAR was described in detail in Chapter two.
Developmental Assessment Protocol for Severely Handicapped

The experimental edition of the Developmental Assessment Protocol for Severely Handicapped was used as a criterion variable with respect to hypotheses one and two and an independent variable with respect to hypothesis three.

IEP Evaluation Checklist

An IEP evaluation checklist developed for the study was used as the dependent variable with respect to hypothesis three. The checklist was designed to evaluate the quality and content of the programming components of IEPs. The programming aspects were (1) a description of the child's present levels of educational performance, (2) a statement of annual goals, and (3) a statement of the short-term instructional objectives. A copy of the checklist is presented in Appendix A.

Pilot Study

A pilot study was conducted with four severely handicapped children from the Sunland Training Center in Gainesville, Florida. Two of the children were deaf-blind as a result of maternal rubella and two of the children were mentally retarded as a result of Down's Syndrome. The children's ages were 12, 13, 9, and 13. The children were tested by three different evaluators who had experience in evaluating severely handicapped children. The children were tested with the DASI, the Bayley, and the DAPSH.
The scores of each subject in the pilot study have been summarized in Table 2. In an examination of the data presented in Table 2 it was found that the age scores derived from the DASI were generally higher than the age scores derived from the Bayley and the DAPSH. One possible explanation for this finding is that most of the items on the DASI did not require expressive language responses so children with auditory and language disorders were not heavily penalized. All of the children in the pilot study had known language delays; therefore, it was expected that the age scores derived from the DASI would tend to be higher than the age scores derived from the Bayley and the DAPSH.

Table 2

Summary of Developmental Age Scores for Subjects in Pilot Study

<table>
<thead>
<tr>
<th>Child</th>
<th>Chronological Age</th>
<th>DAPSH</th>
<th>Developmental Age DASI</th>
<th>BAYLEY</th>
<th>DASI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12 years</td>
<td>17 months</td>
<td>13 months</td>
<td>22 months</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>13 years</td>
<td>29 months</td>
<td>18 months</td>
<td>28 months</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>9 years</td>
<td>22 months</td>
<td>22 months</td>
<td>26 months</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>13 years</td>
<td>25 months</td>
<td>26 months</td>
<td>28 months</td>
<td></td>
</tr>
</tbody>
</table>
In a further analysis of the pilot study data, the Pearson Product Moment procedure (Mendenhall, Ott, & Larsen, 1974) was used to examine the relationship between the age scores derived from the three instruments. The observed correlation among the scores from the DAPSH and the Bayley was .48; the observed correlation among the scores from the DAPSH and the DASI was .93; and the observed correlation among the scores from the DASI and the Bayley was .76. The feasibility of the proposed procedures was demonstrated by the pilot study. Limited evidence concerning the relationship between the age scores derived from the three measures was provided by the pilot study and the practicality of the scoring procedures utilized with the DAPSH was demonstrated.

Data Collection

Part One of the study was an analysis of the internal consistency and concurrent validity of the DAPSH. An independent evaluator with experience in developmental assessment conducted the testing. Two developmental scales of cognitive development were utilized as the criterion variables. The Bayley Scales of Infant Development, which were designed to measure behaviors from birth to 30 months, were utilized as the criterion measure for subjects functioning up to 30 months in overall development. The Developmental Activities Screening Inventory, which was designed to measure behaviors from six to 60 months, was utilized
as the criterion measure for subjects functioning above 30 months in overall development. Seven of the subjects were evaluated with either the Bayley or the DASI and subsequently evaluated with the DAPSH. The order of evaluation was reversed for the other eight subjects.

In part two of the study differences between IEPs written by teachers using the DAPSH or the PAR as the evaluation tool were investigated. Subjects participated in a one day inservice training seminar sponsored by the Florida Learning Resources System during which the data were collected. The topic of the seminar was "Assessment and Programming for Severely and Profoundly Handicapped Children." Seminar activities included a morning lecture/discussion session on assessment and programming followed by a specialized practicum during which the teachers had an opportunity to gain direct experience in formal assessment. An outline of the seminar schedule has been provided in Appendix B.

**Pretest**

At the beginning of the seminar, the subjects viewed a commercially available filmstrip presentation on writing IEPs (Schrag, 1977) and a discussion about writing IEPs was conducted. After viewing the filmstrip and discussing IEP writing, each subject was asked to write an IEP for their child using the IEP form developed for the experiment. A copy of the IEP form has been provided in Appendix C. The subjects were given 30 minutes
to complete the IEP. During the pretest, the participants completed a demographic information questionnaire. A copy of the questionnaire has been provided in Appendix D.

Presentation

Following collection of the pretest IEPs, the subjects participated in a two hour presentation. The presentation consisted of (1) information on utilizing the developmental approach in evaluating and programming for severely handicapped children, (2) a discussion of commonly used developmental testing instruments, and (3) a videotape which described the purposes and uses of the PAR and the DAPSH. The videotape was reviewed by two graduate researchers prior to the seminar and was judged to be an objective presentation of both instruments.

Classroom Assessment

At the end of the presentation, all subjects were given a packet containing an assessment instrument. Subjects in the DAPSH treatment group received packet one containing a copy of the DAPSH. Subjects in the PAR treatment group received packet two containing a copy of the PAR. All of the subjects then returned to their classrooms to assess their child with the instrument in their packet. The subjects were asked to complete the assessment independently without discussing the contents of their packets with other participants. This helped to control for possible contamination of the results due to communication between the subjects in the two treatment groups.
Posttest

After the teachers completed the assessment in their classrooms, they returned to the seminar with the assessment data. Each participant was then asked to complete a posttest IEP based upon the results of the assessment. The subjects were given 30 minutes to complete the posttest IEP. The subjects also completed a participant questionnaire. A copy of the questionnaire has been provided in Appendix E. The seminar was concluded with a brief discussion concerning the seminar and the instruments used in the experimental procedure. The experimental procedure is outlined in Figure 1.

The posttest IEPs were rated by five evaluators using the IEP Evaluation Checklist developed for the study. The evaluators were professionals in special education who had experience with severely impaired/multiply handicapped children. Three of the evaluators were post master's students from a department of special education, one evaluator was a public school teacher, and another evaluator was a teacher in training with four years of experience as a trainer in institutions for the retarded. The inter-rater reliability of the checklist was estimated on the basis of a randomly selected sample of 100 pairs of IEP ratings as suggested by Fox (1969). The formula used to compute the percentage of agreement was the smaller score divided by the larger score and multiplied by 100 (Bailey, 1977).
Sequence of Events

Teachers view IEP Filmstrip and complete pretest IEP → Teachers participate in seminar →

Group I receives DAPSH → Group II receives PAR →

Teachers evaluate children → Teachers complete posttest IEP

Figure 1
Experimental Procedure
Data Analysis

Correctional Techniques

The data collected from the subjects regarding the internal consistency of the DAPSH were analyzed by the odd-even reliability procedure (Fox, 1969).

The Pearson Product Moment procedure (Mendenhall, Ott, & Larsen, 1974) was used to correlate the developmental age scores of the subjects derived from the DAPSH and either the Bayley or the DASI. The data were analyzed using the Pearson Corr subprogram found in the SPSS computer package (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975).

Experimental Analysis

The subjects IEP ratings were analyzed using the one way analysis of variance procedure. The significance level was established at $\alpha = .05$. The data were analyzed using the Oneway subprogram found in the SPSS computer package (Nie et al., 1975).

Stepwise multiple regression procedures (Kerlinger & Pedhazur, 1973) were used to examine the contribution of five demographic variables in predicting IEP ratings. The total score from the IEP Evaluation Checklist was regressed on the following variables: sex, age, education, teaching experience, and employment. The data were analyzed using the Regression subprogram found in the SPSS computer package (Nie et al., 1975).
CHAPTER IV

RESULTS

The results of the statistical analysis of the data have been presented in Chapter IV. The chapter has been divided into three major sections which correspond to the hypotheses of the study.

In hypothesis one and two, the relationship between the odd and even halves of the DAPSH was examined and the relationship between the DAPSH and two other assessment instruments, either the Bayley or the DASI, was investigated. Hypothesis three examined the utility of the DAPSH as a tool used in the development of the programming components of IEPs. IEPs written by teachers using either the DAPSH or the PAR as the evaluation instrument were compared. The IEPs were rated by five evaluators and differences in the IEP rating scores were analyzed using analysis of variance and multiple regression procedures.

Hypothesis One

In the first hypothesis the internal consistency of the items on the DAPSH, which is one measure of the reliability of an instrument, was examined. The hypothesis was that no relationship
existed between the odd and the even numbered items of the DAPSH. Analysis of the data resulted in an observed reliability coefficient between the two halves of the DAPSH of .99. Further data analysis of four subtests of the DAPSH resulted in the following reliability coefficients: (1) sensory/motor, .99; (2) social/emotional, .98; (3) speech and language, .95; and (4) activities of daily living, .93. The strong positive relationship between the odd and even halves of the DAPSH provided evidence that the items on the DAPSH were reliable with respect to internal consistency. The academics subtest of the DAPSH, which measured preacademic and academic behaviors from 24 through 96 months of age, was not included in the statistical analysis due to the fact that only one subject was functioning above the 24 month age range in academic skills. The academics subtest was not included in the analysis of the data in hypothesis two for the same reason.

Hypothesis Two

The second hypothesis was that no relationship existed between the age scores of severely impaired/multiply handicapped children derived from the DAPSH and the age scores derived from either the Bayley or the DASI. The Pearson Product Moment procedure was used to analyze the data. The observed correlation of .97 between the two variables was significant, $t = 14.38(13), \alpha = .05$. Evidence concerning the concurrent validity of the DAPSH was provided by this finding.
Further analysis was conducted to examine the relationship between the subtests of the DAPSH and the criterion measure. The social/emotional subtest and the speech and language subtest were observed to be the subtests most closely related to the criterion measure ($r = .98$ and $.91$, respectively). The activities of daily living subtest was also closely related to the criterion measure ($r = .86$). The sensory/motor subtest was unrelated to the criterion measure ($r = .10$). A summary of the age scores for the subjects derived from the DAPSH, the Bayley, and the DASI is presented in Table 3.

**Hypothesis Three**

The third hypothesis was that there would be no differences in the quality and content of the programming aspects of IEPs written by teachers for severely impaired/multiply handicapped children using the DAPSH as the evaluation tool or the PAR as the evaluation tool. The analysis of variance test of statistical significance was employed with regard to the mean IEP rating of each IEP as measured by the IEP Evaluation Checklist. Based on the statistical analysis, the null hypothesis was not rejected as the differences were not found to be significant, $F(1,26) = p < .05$.

The reliability of the ratings from the IEP Evaluation Checklist was estimated on the basis of 100 pairs of ratings
Table 3

Summary of the Age Scores in Months for Subjects in Part One of the Study

<table>
<thead>
<tr>
<th>Subject</th>
<th>Chronological Age</th>
<th>Bayley or DASI Age Score</th>
<th>DAPSH Age Score</th>
<th>Motor</th>
<th>DAPSH Subtest Age Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Motor</td>
<td>Language</td>
<td>ADL</td>
</tr>
<tr>
<td>1</td>
<td>8 yrs. 10 mos.</td>
<td>9.0</td>
<td>11.8</td>
<td>24</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>6 yrs. 6 mos.</td>
<td>2.0</td>
<td>4.5</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>11 yrs. 4 mos.</td>
<td>11.0</td>
<td>10.3</td>
<td>21</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>15 yrs. 0 mos.</td>
<td>9.0</td>
<td>9.5</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>7 yrs. 1 mo.</td>
<td>3.5</td>
<td>2.3</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>13 yrs. 3 mos.</td>
<td>3.5</td>
<td>3.9</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>9 yrs. 6 mos.</td>
<td>18.0</td>
<td>15.4</td>
<td>19</td>
<td>6</td>
</tr>
<tr>
<td>8</td>
<td>12 yrs. 1 mo.</td>
<td>3.0</td>
<td>6.8</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>16 yrs. 9 mos.</td>
<td>2.0</td>
<td>2.0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>14 yrs. 3 mos.</td>
<td>2.0</td>
<td>3.0</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>14 yrs. 3 mos.</td>
<td>3.0</td>
<td>3.3</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>12 yrs. 6 mos.</td>
<td>3.5</td>
<td>8.8</td>
<td>19</td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>12 yrs. 4 mos.</td>
<td>3.0</td>
<td>5.0</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>14</td>
<td>5 yrs. 5 mos.</td>
<td>39.0</td>
<td>37.2</td>
<td>6</td>
<td>60</td>
</tr>
<tr>
<td>15</td>
<td>13 yrs. 5 mos.</td>
<td>2.0</td>
<td>5.1</td>
<td>14</td>
<td>1</td>
</tr>
</tbody>
</table>
that were selected using a table of random numbers. The raters evaluated both qualitative and quantative components of the IEPs written by the teachers. The evaluators based their ratings upon their own professional judgment and experience. A six point rating scale was used for each of the 22 items on the checklist.

When the five ratings for each IEP form were visually inspected it was found that one rater consistently rated the IEPs lower than the other four raters but the direction of the lower ratings appeared to be consistent with the ratings of the other four evaluators. The observed percentage of agreement was 73%. Due to the factors described above, this observed reliability estimate was acceptable as a measure of the quality and content of the IEPs but the data must be interpreted with caution. The acceptability of the reliability estimate was confirmed by Fox (1969) who reported that when instruments designed to measure attitudes and judgments have been utilized estimates in the 70's have been acceptable.

Further analysis of the data using three separate t-tests was conducted to examine whether there were significant pretest differences between the two treatment conditions and whether there were significant differences between the pretest and post-test ratings of the IEPs written by the teachers in each treatment group. Based on the statistical analysis, no significant differences were found between the pretest scores of the subjects
in the two treatment conditions, $t(26) = 1.05, p < .05$, and no significant differences were found between the pretest and posttest scores in the DAPSH treatment condition, $t(12) = 1.76, p < .05$, or the PAR treatment condition, $t(14) = .71, p < .05$. The pretest and posttest scores for each subject are presented in Table 4. The lowest possible IEP rating score was 22 and the highest possible score was 132. The observed scores ranged from a low of 30.4 to a high of 110.8.

Through an examination of the data presented in Table 4, it was found that five subjects in each of the two treatment conditions increased in posttest scores compared to pretest scores. Two subjects in the DAPSH treatment condition and five subjects in the PAR treatment condition decreased in posttest scores. The posttest scores were the same as the pretest scores for six subjects in the DAPSH treatment condition and five subjects in the PAR treatment condition.

In a further analysis of the data, stepwise multiple regression procedures were utilized to conduct an examination of the contribution of five demographic variables in predicting IEP rating scores. The intercorrelations of the demographic, dependent, and independent variables are presented in Table 5.

When all five of the demographic variables were entered into the system, the observed multiple $R$ was .5457 with a corresponding $R^2$ of .2978. This observed $R^2$ indicated that, operating jointly, the five demographic variables explained approximately 30% of the
Table 4

Pretest and Posttest IEP Rating Scores for Teachers of Severely Impaired/Multiply Handicapped Children

<table>
<thead>
<tr>
<th>Teachers in the DAPSH Treatment Group</th>
<th>Teachers in the PAR Treatment Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject</td>
<td>Pretest</td>
</tr>
<tr>
<td>----------</td>
<td>---------</td>
</tr>
<tr>
<td>1</td>
<td>41.4</td>
</tr>
<tr>
<td>2</td>
<td>81.0</td>
</tr>
<tr>
<td>3</td>
<td>67.2</td>
</tr>
<tr>
<td>4</td>
<td>51.2</td>
</tr>
<tr>
<td>5</td>
<td>78.6</td>
</tr>
<tr>
<td>6</td>
<td>110.8</td>
</tr>
<tr>
<td>7</td>
<td>30.4</td>
</tr>
<tr>
<td>8</td>
<td>81.0</td>
</tr>
<tr>
<td>9</td>
<td>68.0</td>
</tr>
<tr>
<td>10</td>
<td>101.0</td>
</tr>
<tr>
<td>11</td>
<td>84.4</td>
</tr>
<tr>
<td>12</td>
<td>31.0</td>
</tr>
<tr>
<td>13</td>
<td>30.6</td>
</tr>
<tr>
<td>14</td>
<td></td>
</tr>
<tr>
<td>15</td>
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</table>

\[ \bar{X} = 65.89 \quad \bar{X} = 75.11 \]

\[ \bar{X} = 72.78 \quad \bar{X} = 76.85 \]
<table>
<thead>
<tr>
<th>Demographic Characteristics of the Teachers</th>
<th>Age</th>
<th>Education</th>
<th>Experience</th>
<th>Employment</th>
<th>IEP Rating</th>
<th>Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>-0.31</td>
<td>0.02</td>
<td>0.09</td>
<td>-0.12</td>
<td>0.35*</td>
<td>-0.14</td>
</tr>
<tr>
<td>Age</td>
<td>-</td>
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<td>0.25</td>
<td>0.11</td>
<td>-0.24</td>
<td>0.10</td>
</tr>
<tr>
<td>Education</td>
<td>-</td>
<td>0.15</td>
<td>-0.51*</td>
<td>0.36*</td>
<td>-0.08</td>
<td></td>
</tr>
<tr>
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<td>-</td>
<td>-0.45*</td>
<td>-0.05</td>
<td>0.11</td>
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<td></td>
</tr>
<tr>
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<td>-</td>
<td>-0.14</td>
<td>-</td>
<td>0.14</td>
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</tr>
<tr>
<td>IEP Rating</td>
<td>-</td>
<td>-</td>
<td>-0.10</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Group</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at .05 level.
variance in the dependent variable, the rating of the programming components of the IEP on the IEP Evaluation Checklist. The observed multiple $R$, the corresponding $R^2$ and the $R^2$ change for the demographic variables as they entered the system are presented in Table 6.

Table 6

<table>
<thead>
<tr>
<th>Variable</th>
<th>Multiple $R$</th>
<th>$R^2$</th>
<th>$R^2$ Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>.358</td>
<td>.128</td>
<td>.128</td>
</tr>
<tr>
<td>Sex</td>
<td>.495</td>
<td>.245</td>
<td>.117</td>
</tr>
<tr>
<td>Age</td>
<td>.529</td>
<td>.279</td>
<td>.034</td>
</tr>
<tr>
<td>Employment</td>
<td>.544</td>
<td>.296</td>
<td>.017</td>
</tr>
<tr>
<td>Experience</td>
<td>.545</td>
<td>.297</td>
<td>.001</td>
</tr>
</tbody>
</table>

The $R^2$ indicated the proportion of variance accounted for by the demographic variables in the analysis at any given step in the procedure. The prediction equation derived for all five variables and their partial regression coefficients was $\hat{Y} = 21.23 + 20.25 \text{ (Sex)} + 17.55 \text{ (Education)} + 4.73 \text{ (Employment)} - .62 \text{ (Experience)} - 6.51 \text{ (Age)}$. 
The F ratios for the five demographic variables as they entered into the regression analysis are presented in Table 7. Three variables, education, sex, and age, were found to be significant predictors of IEP ratings. The finding that sex was a significant predictor must be viewed with caution due to the small number of males in the sample. Two variables, employment and teaching experience, were not found to be significant predictors of IEP rating scores. These variables contributed very little to the ability to predict IEP rating scores after education, sex, and age were taken into account.

Table 7
F Ratios for the Demographic Variables in the Regression Analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
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</thead>
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<tr>
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<tr>
<td>Sex</td>
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</tr>
<tr>
<td>Age</td>
<td>3,24</td>
<td>3.10*</td>
</tr>
<tr>
<td>Employment</td>
<td>4,23</td>
<td>2.42</td>
</tr>
<tr>
<td>Experience</td>
<td>5,22</td>
<td>1.86</td>
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</table>

*p < .05.
Summary of Results

In an examination of the statistics relevant to the hypotheses of the study, it was found that the items on the DAPSH were reliable with respect to internal consistency. In an examination of the age scores derived from the DAPSH and either the Bayley or the DASI, it was found that the age scores were significantly related. In an examination of the ratings of the IEPs written by the teachers in the DAPSH and the PAR treatment groups, it was found that there were no significant differences between the IEP ratings. When an investigation of the relationship between five demographic variables and the ratings of the IEPs written by the teachers was conducted, it was found that three variables, operating jointly, the teacher's level of education, the sex of the teacher, and the teacher's age, were significant predictors of IEP ratings.
CHAPTER V
DISCUSSION

The purpose of this study was to conduct a functional analysis of the experimental edition of the Developmental Assessment Protocol for Severely Handicapped. Recently, educational provisions for severely impaired/multiply handicapped children have been expanding rapidly. As more severely impaired/multiply handicapped children have been entering special education classrooms, it has become increasingly important to develop and examine new technologies, including assessment systems such as the DAPSH, which could be effective in identifying and programming for specific needs of each severely impaired/multiply handicapped individual.

The use of developmental assessment systems with severely impaired/multiply handicapped children has been increasing. Over the past several years, a number of new developmental assessment tools have been designed for use with severely handicapped children including those with multiple impairments. The growing use of developmental assessment system has been, in part, in response to the inadequacy of standard assessment instruments in evaluating severely impaired/multiply handicapped children and
in identifying appropriate programming goals and objectives for this population. Psychological tests, achievement tests, and social maturity scales have been of limited value with severely impaired/multiply handicapped children. Recent reports in the literature have indicated that developmental scales should provide more functional information for determining present levels of child performance, for identifying appropriate programming goals and objectives, and for measuring child progress.

Despite the increasing use of developmental assessment systems, problems have still existed in applying the developmental approach to assist in educating severely handicapped children. Scoring systems, ideal test length, reliability, validity, and the difficulty of applying the normal sequence of child development to severely handicapped children have been areas in which problems exist. There has been a need to further examine present assessment tools and to investigate newly developed assessment instruments designed for use with severely impaired/multiply handicapped children. The present study was designed to respond to this need by conducting a functional analysis of the DAPSH.

**Review of the Hypotheses**

To investigate the utility of the DAPSH with severely impaired/multiply handicapped children, the following hypotheses were tested:
1. No relationship exists between the odd and the even items of the DAPSH as measured by the split-half reliability coefficient.

2. There is no relationship between the age scores of severely impaired/multiply handicapped children derived from the DAPSH and the age scores of the same children derived from either the Bayley or the DASI.

3. There is no difference in the quality and content of the programming components of IEPs written by teachers for severely impaired/multiply handicapped children using the DAPSH as the evaluation tool or the PAR as the evaluation tool.

In hypotheses one and two, the internal consistency and the concurrent validity of the DAPSH were tested. The functional utility of the DAPSH as a tool for developing IEPs was tested in hypothesis three.

**Review of the Methods**

Subjects in part one of the study were 15 severely impaired/multiply handicapped children. The children were evaluated with the DAPSH and either the Bayley or the DASI to determine their developmental age scores. This data was used to examine the internal consistency of the DAPSH and the relationship between the DAPSH and the criterion variable, either the Bayley or the DASI.
In part two of the study, subjects were 28 teachers who had teaching experience with severely handicapped students. During a one day seminar, the teachers were randomly assigned to one of two treatment groups, the DAPSH treatment group or the PAR treatment group. Each teacher evaluated one child from his/her own classroom and formulated the programming aspects of an IEP based upon the results of the evaluation, the information provided in the seminar, and their knowledge of the child.

An IEP Evaluation Checklist developed for the study was used to rate the IEPs written by the teachers. The raters were five professional educators who had experience in the education of severely handicapped children. The IEP rating scores were used as the dependent variable in comparing the IEPs written by the two groups of teachers. Demographic information regarding the teachers participating in the study was also gathered during the seminar. This data were used to examine the contribution of the demographic variables in predicting IEP ratings.

**Summary of Findings**

In an analysis of the data relevant to hypothesis one of the study, it was found that the DAPSH was highly internally consistent as measured by the odd-even reliability procedure. In an analysis of the data relevant to hypothesis two, it was found that the age scores derived from the DAPSH were significantly related to the age scores derived from either the Bayley or the DASI.
In an analysis of the data relevant to hypothesis three, it was found that there were no significant differences between the ratings of the IEPs written by teachers who used the DAPSH or the PAR as the assessment instrument. Further analysis of the demographic information gathered from the teachers participating in the study indicated that three demographic variables, education, sex, and age, were significant predictors of IEP ratings. Two demographic variables, employment and teaching experience, were not significant predictors of IEP ratings.

Interpretation and Literature Support

A finding of part one of the study was that the items on the DAPSH were internally consistent for the subjects in the sample as measured by odd-even reliability procedures. This finding was expected based upon the long length of the DAPSH and because all of the items on the DAPSH are from previously validated developmental scales. The finding must be viewed with caution because the reliability estimate is based upon one contact with each subject and all of the evaluations were conducted by a single examiner.

Another finding of part one of the study was that the age scores derived from the DAPSH were significantly related to the age scores derived from either the Bayley or the DASI. Since the Bayley and the DASI are mental measures of demonstrated validity
(Bayley, 1969; Collard, 1972b; DuBose, 1976; Holden, 1972), this finding indicates that the age scores derived from the DAPSH were comparable to the age scores derived from these two concurrent assessment instruments.

A third finding of part one of the study was that the age scores derived from the social/emotional and speech and language subtests of the DAPSH were most closely related to the age scores derived from the criterion measures. The age scores derived from the activities of daily living subtest of the DAPSH were also closely related to the age scores derived from the criterion measure. On the other hand, the age scores derived from the sensory/motor subtest were not related to the criterion measure. One possible interpretation of this finding is that social, emotional, and language abilities measured by the DAPSH may be closely related to the cognitive abilities measured by the Bayley and the DASI. In addition, the activities of daily living skills and the sensory/motor abilities measured by the DAPSH may not be as closely related to the cognitive abilities measured by the Bayley and the DASI. This interpretation was confirmed by a perusal of the items on the DASI and the Bayley. Few items on these instruments appeared to explicitly tap gross motor and self-help abilities. The interpretation that social and emotional abilities may be related to cognitive abilities was supported by Magrab (1976) who indicated that most measures of cognitive abilities also measure social and emotional abilities. The
interpretation that language abilities may be closely related to
cognitive abilities was supported by DuBose (1976) and Doll (1966b)
who have indicated that most cognitive measures rely heavily on
language activities to measure cognitive skills. Overall, the
findings in part one of the study provided initial evidence con-
cerning the internal consistency and the concurrent validity of
the DAPSH.

A finding in part two of the study was that the level of
education of the teachers was a significant predictor of IEP
rating. It was found that the teachers with more education tended
to have higher IEP ratings. This finding may support the supposi-
tion that severely handicapped children present complex and unique
programming problems that require highly trained teachers for
effective intervention (Davies, 1977; Sailor & Haring, 1977;
Stainback et al., 1976).

Another finding was that sex in conjunction with education was
a significant predictor of IEP rating. It was found that male
teachers tended to have lower IEP ratings than female teachers.
This finding was statistically significant but it was not meaningful
since the significance could be attributed to the small number of
male teachers in the sample. A third finding in part two of the
study was that age in conjunction with education and sex was a
significant predictor of IEP rating. It was found that the older
teachers tended to have lower IEP ratings than the younger
teachers. Support of the proposition that teacher training
programs have been or should be redesigned to prepare teachers to intervene effectively with severely impaired children (Stainback et al., 1976; Wilcox, 1977) was provided by this finding. Haring (1975) pointed out that in the past the training given to most special educators was designed for intervention with mildly and moderately handicapped children. Today specialized training in competencies necessary for effective intervention is being given to special educators. This specialized training includes assessment procedures, teaching activities of daily living skills, and teaching gross motor skills (Baldwin, 1976; Burke & Cohen, 1977; Horner, 1977; Tilton, Liska, & Bourland, 1977).

Problems and Limitations

One of the objectives of the study was to investigate the utility of using the DAPSH to formulate the programming aspects of IEPs. No significant differences were found between the IEP ratings of teachers in the DAPSH assessment group and the PAR assessment group. There are several possible explanations for this. The first concerns the one day seminar during which the data were collected. During the seminar the teachers may not have been given enough explanation about how to utilize the assessment instruments. This was a problem since many of the teachers appeared not to have received previous training in administering
screening level and comprehensive level developmental scales. In addition, it is possible that the teachers did not have sufficient time to incorporate the information gathered during the assessment into the IEPs. This was especially true for the teachers who used the DAPSH since it was longer and had a more complex scoring procedure. The IEPs were written on a Friday afternoon in May in a stuffy room which contained inadequate seating arrangements for comfortable writing. A possible solution to this problem might be to arrange in some way for the teachers to have more time to become familiar with the assessment instrument and to have more time to include relevant assessment information in the IEPs.

There remains another possible explanation of the finding that there were no significant differences between the two groups of teachers. It was possible that the type of developmental assessment instrument used had little to do with ratings of IEPs written by teachers. It appeared that many of the teachers were not accustomed to utilizing formal assessment data in writing IEPs. This interpretation was drawn from the fact that a majority of the teachers were not observed to improve on the posttest IEP ratings. This interpretation could suggest the need for investigation of the factors that contribute to the use of formal
assessment data in formulating the programming components of IEPs.

**Practical Implications**

A number of practical implications can be derived from the findings of the present study. The finding that the items on the DAPSH were internally consistent provides initial evidence concerning the degree to which the items are related. The finding that age scores derived from the DAPSH are significantly related to the age scores of the Bayley and the DASI has meaning when a profile of age scores across all of the major learning areas is needed rather than one total age score. In this situation, the DAPSH can be utilized as a criterion measure to formulate goals and objectives and measure child progress.

The finding that the level of education was a significant predictor of teacher IEP ratings may be important in supporting recent expansion of teacher training programs in the area of severely handicapped and also in the hiring of teachers in positions to serve severely handicapped children. A need for expansion and enrichment of inservice training designed to assist teachers in upgrading competencies to deal more effectively with severely handicapped children was suggested by the finding that age was a significant predictor of teacher IEP ratings.

The need for more inservice training especially in the area of assessment was supported in an examination of the written
feedback provided by the teachers. The feedback was provided in a participant questionnaire which was completed at the end of the seminar. When asked, "Which aspects of the seminar were most helpful?" 90% of the teachers responded that the lecture/discussion session on assessment and programming was the most helpful. When asked, "Would you want similar information in the future?" a majority of the teachers responded positively. When asked, "Which aspects of the evaluation instrument you used were not helpful in rewriting the IEP?" the teachers responses were varied. Many of the teachers who used the PAR indicated that it failed to provide enough detailed information to be useful in IEP formulation. Other teachers who used the DAPSH indicated that it was too long and complex to be utilized effectively during a one day assessment period. This anecdotal information provided evidence concerning the need for inservice training designed to upgrade the competencies of teachers in using formal assessment data in IEP development.

Suggestions for Future Research

Based upon the results of part one of the present study, researchers in the future could conduct further investigations of the internal consistency of the DAPSH especially with subjects functioning at higher developmental age levels. Researchers could also investigate other aspects of the reliability of the
DAPSH such as test-retest reliability and inter-examiner reliability. Further study of the concurrent validity of the DAPSH and research concerned with other aspects of the validity of the DAPSH such as the content validity and the congruent validity could also be of benefit. Finally, there is a need for additional study with larger numbers of subjects to support the initial reliability and validity evidence provided in the present study.

In light of the results of part two of the present study, further experimental analysis of the utility of the DAPSH is needed. In the future, researchers should provide more instruction to the teachers regarding the uses of the assessment instruments and allow more time for inclusion of assessment information into the IEPs. An alternative type of program plan such as a lesson plan or set of lesson plans could be used in place of an IEP form. This procedure may enable the teachers to express more precisely information gathered from classroom evaluations.

Alternative experimental analysis techniques could include single subject analysis of rate of change data designed to measure the progress of individual children over time. In addition, experimental studies in which treatments designed to change children's developmental age scores based upon intervention using the DAPSH assessment system and other frequently used assessment systems would be beneficial in providing information regarding the utility of the DAPSH.
Finally, it is suggested that, in the future, researchers should continue investigation of developmental assessment instruments designed for use with severely impaired/multiply handicapped children. First, investigation should continue in the development of more sophisticated and sensitive instruments designed to detect small changes in behavior. Research in this area has been needed since severely handicapped children often make slow progress that has been difficult to measure. Secondly, research should continue in the development of instruments which may help professionals meet the increasing demands in the area of accountability. These demands have been increasing due to the requirements of new legislation such as Public Law 94-142 which has mandated that appropriate assessment procedures must be utilized in developing Individual Education Programs. Thirdly, research should continue in the development of instruments which may be used cooperatively by all of the various professionals involved in educating severely handicapped children. The need for interdisciplinary team approaches in assessment and programming has been increasing due to the fact that effective intervention programs must represent education, medicine, health related professions, psychosocial disciplines, and the parent and child consumers.

Professionals serving severely impaired/multiply handicapped children have been presented with complex and difficult problems.
Research designed to improve assessment systems is of critical importance in the development of effective educational services for this unique population.
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APPENDIX A

IEP EVALUATION CHECKLIST

The purpose of this scale is to evaluate the programmatic aspects of Individual Educational Plans (I.E.P.s) for severely impaired/multiply handicapped children.

Read over the entire form. Then use the scale below to assign a value to each item that indicates your evaluation and opinion of each specific item of the I.E.P.

Use a 1 to indicate extremely strong disagreement. Use a 6 to indicate extremely strong agreement. Use ratings of 2 and 3 to indicate disagreement and slight disagreement, but less than strong disagreement. Use ratings of 4 and 5 to indicate slight agreement and agreement, but less than strong agreement.

I. Present levels of performance

A. Performance levels are comprehensive and cover each learning area specified.

1 2 3 4 5 6

B. Performance levels are stated in measurable terms.

1 2 3 4 5 6

C. Performance levels are detailed enough to provide a clear description of the child's level of functioning (i.e., how, where, when).

1 2 3 4 5 6
D. Quantitatively, the number of performance levels is sufficient to clearly describe performance.

1 2 3 4 5 6

II. Annual Goals

A. Annual goals are realistic in terms of present levels of performance.

1 2 3 4 5 6

B. Annual goals are stated comprehensively for each learning area.

1 2 3 4 5 6

C. Annual goals do not skip learning areas specified.

1 2 3 4 5 6

D. Annual goals are prioritized based on child need.

1 2 3 4 5 6

E. Annual goals are appropriate in terms of effectiveness and efficiency.

1 2 3 4 5 6

F. Quantitatively, the number of annual goals is sufficient to clearly delineate goals.

1 2 3 4 5 6

II. Short term instructional objectives (6-9 weeks)

A. Short term objectives are consistent with annual goals.

1 2 3 4 5 6

B. Objectives are realistic in terms of annual goals.

1 2 3 4 5 6

C. Objectives are sequenced as intermediate steps between present levels and annual goals.

1 2 3 4 5 6
D. Objectives are stated in measurable terms.
   1 2 3 4 5 6

E. Objectives are clear enough to describe specific teaching activities.
   1 2 3 4 5 6

F. Quantitatively, the number of objectives is sufficient to provide a clear description of objectives.
   1 2 3 4 5 6

IV. General

A. Overall quality of I.E.P. is good.
   1 2 3 4 5 6

B. I.E.P. is useful to non-professional trainers for making programming decisions.
   1 2 3 4 5 6

C. I.E.P. is useful to professional trainers for making programming decisions.
   1 2 3 4 5 6

D. I.E.P. is useful to parents or guardian for making programming decisions.
   1 2 3 4 5 6

E. Programming aspects of I.E.P.s are complete for implementing comprehensive programming.
   1 2 3 4 5 6

F. Quantitatively, the number of performance levels, goals, and objectives is sufficient for the I.E.P. to serve as an educational programming tool.
   1 2 3 4 5 6
APPENDIX B
OUTLINE OF SEMINAR

8:00 - Introduction
   Filmstrip/Cassette Presentation on IEP's
   Discussion
   Pretest IEP

9:00 - Assessment and Programming
   The Developmental Approach
   Developmental Testing Instruments
   The Programming Aspects of IEP's
   Videotape

10:30 - Return to Classroom
   Specialized Intensive Practicum
   Each participant will go to his/her classroom and complete an assessment of one child using an assessment instrument provided in the seminar.

2:00 - Return to Seminar
   Complete Posttest IEP
   Discussion
   Complete Participant Questionnaire

3:30 - End of Seminar
APPENDIX C

IEP FORM
<table>
<thead>
<tr>
<th>Learning Area</th>
<th>Present Levels of Performance</th>
<th>Short Term Instructional Goals</th>
<th>Annual Goals</th>
<th>Evaluation</th>
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<td>PHYSICAL SKILLS</td>
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<td>Fine Motor</td>
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<td>Short Term Instructional Goals</td>
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<td>OTHER</td>
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APPENDIX D
DEMOGRAPHIC INFORMATION QUESTIONNAIRE

1. Sex
   ___ Male
   ___ Female

2. Age
   ___ 18-23
   ___ 24-29
   ___ 30-35
   ___ 36 or older

3. Education
   ___ Bachelor's
   ___ Master's
   ___ Post Master's

4. Teaching experience with severely impaired or multiply handicapped children
   ___ None
   ___ 1 year
   ___ 2 years
   ___ 3 years
   ___ 4 or more years

5. Supervised teaching experience with severely impaired or multiply handicapped children
   ___ Supervised volunteer experience
   ___ Supervised practicum experience
   ___ Internship

6. Type of educational facility where employed
   ___ Public school
   ___ Private school
   ___ Institution
   ___ None

7. Teaching certificates held
   ___ Motor disabilities
   ___ Mental retardation
   ___ Varying exceptionalities
   ___ Other (please specify)

   ___________________________________________
   ___________________________________________
APPENDIX E
PARTICIPANT QUESTIONNAIRE

1. Which aspects of the seminar were helpful?

2. Which aspects of the seminar were not helpful?

3. Would you want similar information in the future?

4. Which aspects of the evaluation instrument you used were helpful in rewriting the IEP?

5. Which aspects of the evaluation instrument you used were not helpful in rewriting the IEP?
BIOGRAPHICAL SKETCH

John Jeffrey Venn was born April 2, 1949, at Moscow, Idaho. He graduated from Terry Parker High School in Jacksonville, Florida, in 1967. He received his Bachelor of Science in economics and sociology from Florida State University in 1971.

For four years, Mr. Venn was employed as a teacher of deaf-blind and multihandicapped children by the Duval County Schools in Jacksonville, Florida. During this time he enrolled in graduate school at George Peabody College for Teachers where he earned the Master of Arts degree in special education in 1974.

Beginning August, 1975, Mr. Venn served as project coordinator for the Model Vision Center Programs for Severely Handicapped Children and Youth with Visual Impairment at George Peabody College for Teachers.

Mr. Venn entered graduate school at the University of Florida in January, 1977. Since that time he has been studying toward the Doctor of Philosophy degree, majoring in special education and minoring in health related professions.

John Jeffrey Venn is married to Dona Janelle McBride and has a son, Jeffrey Edwin Venn. Mr. Venn is a member of the
Council for Exceptional Children, Division of Physically Handicapped, Hospitalized and Homebound; Division for the Visually Handicapped; National Association for the Education of the Severely and Profoundly Handicapped; and the National Association for Retarded Citizens.
I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Mary K. Dykes, Chairperson
Associate Professor of Special Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Robert F. Algozzine
Assistant Professor of Special Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Charles Forgnone
Professor of Special Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

James G. Joiner
Associate Professor of Rehabilitation Counseling
I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Stuart E. Schwartz
Assistant Professor of Special Education

This dissertation was submitted to the Graduate Faculty of the Department of Special Education in the College of Education and to the Graduate Council, and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

August, 1978

Dean, Graduate School