PROBLEMS WITH LANGUAGE-ARTICULATION ASSESSMENT AND IEPs FOR THE MULTIPLY HANDICAPPED

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The study was designed to determine the types of language and articulation assessment tests used to evaluate the communicative competencies of the multiply handicapped and to determine their usefulness in the process of development viable IEPs. Standardized, commercial tests, required by Public Law 94-142, are inadequate for this purpose. In turn, this adversely affects the development of the IEPs for this population and their procedural process. The solution is clinician-devised tests. However, Public Law 94-142 appears to preclude their use. A questionnaire was developed by the investigators to ascertain specific data and related information. Ten speech-language pathologists who educate multiply handicapped children within the age range of 4 through 8 years served as respondents. Results indicated the utilization of a diversity of commercial tests and a general lack of satisfaction with them. Related data supported these findings. Implications are discussed.

The evaluation of the language and articulation competencies of multiply handicapped children presents a major paradox for speech-language pathologists as educators under Public Law (PL) 94-142. There is a paucity of standardized speech and language assessment tests which, by themselves yield useful (i.e., effective in identifying intervention strategies) and accurate data for the development of viable Individualized Education Programs (IEPs) to meet the needs of these special children. Given this fact, the solution to the problem is to administer clinician-made tests or to extract items for several standardized or reputable ones.

Public Law 94-142 (Federal Register, 1977, p. 42496) stipulates that tests and other evaluation materials be "validated for the specific purpose for which they are used". This specification invalidates a derived procedure such as the use of clinician-made tests for assessing a cross section of skills. Speech-language pathologists who work with

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multiply handicapped children are faced with problems when **selecting the appropriate** assessment tests or materials to determine communicative strengths and weaknesses.

The specific problem arises because most evaluative measures for speech and language disorders have been standardized on populations of normal children. The assessment tests are not refined to delineate the communicative competencies of multiply handicapped children. The reason is that their communicative competencies are occluded and/or confounded by the nature of the primary and/or concomitant handicaps. Speech-language pathologists work with these children are forced, however, to use traditional, standardized tests to meet the requirements under PL 94-142.

The evaluation requirements state explicitly that testing should ensure appropriate classification and placement of handicapped children in a nondiscriminatory manner. While the law stresses accuracy in the derivation of placement for these children, its wording does not (appear to) recognize the flexibility in testing needed for the multiply handicapped.

The problem presented here may be one rooted in interpretation, but a problem none the less. For example, under PL 94-142, multihandicapped means "concomitant impairments..., the combination of which causes such severe educational problems..." (Federal Register, 1977, p.42478). On the Other hand, under the Tennessee Codes Annotated (TCA) (1982), it is defined as "those who have a combination of two or more certifiable handicapping conditions whose impact is so severe..." (p.114). In this investigation, the definition of multiply handicapped is consistent with these two sources; operationally, it means two or more handicaps.

Considering the practical aspects of these laws, one finds a clearer distinction between certain types of orthopedic impairments (e.g., cleft palate and/or cleft lip) and speech-resonance disorders than between a form of mental retardation (e.g., mild, moderate, severe, or profound) and speech-language disorders. As a result of intervention, one can find a clearer alteration of the speech-resonance disorders with surgigal intervention in the former illustration, reflecting the concomitant nature of the communicative disorders. The latter illustration reflects a more difficult assessment of communicative competencies because the difficulties in the areas of communication may be either concomitant on coexistent with mental retardation (Corsini, 1984; Deighton, 1971; Wolman, 1977).

However, the assumption, on professional bases, favours the notion that communicative disorders associated with mental retardation are concomitant rather than coexistent

disabilities. In the development of this study, this point is not germane.

Other primary handicaps, defined under PL 94-142 or TCA (1982), in combination with communicative disorders present similar problems relative to the evaluation of these disorders. Two representative examples include (a) learning disabilities and speech-language disorders and (b) motoric disabilities and speech and/or articulation disorders. The professional dilemma herein is the subject of this paper.

The relevance of this issue can be seen in several common problems associated with the multiply handicapped. One example involves the severely or profoundly retarded whose handicaps are compounded by an almost complete absence of imitative skills. Training must initially focus on prerequistic skills such as motor and verbal imitation. Once a training procedure has been implemented and criteria have been met for the attainment of these prerequisite skills, the speech-language pathologist may successfully administer formal, standardized tests.

In a second example, the speech-language pathologist encounters the low functioning, nonverbal, physically handicapped who have limited motor control. It may be determined, in this case, that no standardized test can be administered to this group. Thus, the speech-language pathologist may be forced to use an informal interview-type test. The parent or teacher, preferably the former, serves as the informant who discloses information about the child's communicative competencies.

As a third example, it is not unusual to find the child whose attention span is so limited that it becomes necessary to extend the testing procedures over a period of days. Because tests are not validated in this manner, the value and the accuracy of the results are questionable.

Finally, the speech-language pathologist encounters children who are administered a test on which a ceiling is quickly obtained without a basal being established. In this case, little or no pertinent information is obtained on the children's competencies.

From a clinical perspective, what can be used to evaluate these special children? Bangs (1982) suggested the assessment of skills in areas which may reflect the child's developmental status as affected by the handicap, such as language, cognition, social-personal relationships, and motor develop-

ment. She further recommended the assessment of concepts thatwill prepare the child for a preacademic curriculum.

Evard and Sabers (1979) suggested the use of current standardized tests, with procedures for improving the validity of them. These procedures provide options to the development of new tests, adaptation of existing tests, and the use of criterion-referenced tests.

McCauley and Swisher (1984) suggested the use of current standardized tests that have been carefully scrutinized in terms of their psychometric characteristics, as well as their strengths and weaknesses. It is felt that knowledge of a test, including its content and standardization, will afford the speech-language pathologist the opportunity to use the best tests available for intervention.

Earlier, it was asserted that clinician-devised tests were the solution to the paradox of compliance with PL 94-142 and the unavailability of standardized tests for the multiply handicapped. The several foregone citations support, in part, this conceptual notion. Justification for this position lies in the requisite for accuracy in testing, which is. consistent with one of the major tenets in PL 94-142, and in the need to better serve the multiply handicapped.

As a consequence of the foregone discussion, the operational assumption in this investigation is that standardized tests must be used. They are used to (a) assess language and articulation disorders of all students referred for therapy and (b) accurately account for certification/noncertification of students referred for services.

The purpose of this study is to determine the types of assessment tests utilized by speech-language pathologists for evaluating language and articulation disorders in the multiply handicapped and to determine their usefulness (defined earlier) in the process of developing viable IEPs. The purpos emanates from the issues developed in this introductory section.

Method

Subjects

Respondents comprised 10 speech-language pathologists who educated multiply handicapped children in the age range of 4 to 8 years. The 10 respondents comprised 71% of the total number (14) of potential respondents. They were primary teachers on the instructional staff in schools designed specifically for handicapped children, that is, special schools, and itinerant teachers who provided related or remedial services in several regular schools.

The population of respondents was small for several reasons. First, the number of multiply handicapped children was small relative to the population of handicapped children. The figures for the United States and for the state of Tennessee were 1.2 and 1.6% respectively, for children served under PL 94-142 during the 1982-83 academic year (Office of Special Education and Rehabilitative Services, 1984).

Second, the age range was a delimiting factor. It was chosen because it was of preferred interest to the investigators. It also represented the earliest age range for formal education. In addition, it was felt that standardized language assessment tests were weakest in this age range for the multiply handicapped.

Third, the population of respondents came from two contiguous counties in middle Tennessee. These counties were Wilson and Davidson, the latter included the city of Nashville. Fourth, within the counties, public school systems were utilized; their administrations and funding allocations operated at this level. Additionally, there were no obvious differences in their management and resource allocations.

No inquiry was made into the professional and educational backgrounds of the respondents. The Tennessee State Board of Education mandates that persons who work as speech-language pathologists must meet the minimum requirements of 36 quarter hours in speech and hearing. Each of the county systems required a minimum of an undergraduate degree in the area (see Bullett, 1985 for a national comparison).

As a final point, the several reasons for the small number of speech-language pathologists should also serve as a caution in the evaluation of the outcome of this investigation. But, they accurately reflect the facts.

Materials

A questionnaire was developed by the investigators. It was structured to elicit data on (a) specific tests used in batteries for the identification of speech and language impairements; (b) tests used as alternatives to the standardized instruments and their usefulness in the remediation process; (c) the usefulness of the tests (i.e, in the planning of remedial strategies via the development of IEPs); and (d) the kinds of information used in the development of IEPs. (Copies of the questionnaire are available upon request.)

Results

Table 1 reveals the distri-

TABLE 1

Tests in Current Use by Speech-Language Pathologists in Assessing the Cornmunicati \/e Skills of Multiply Handicapped Children.

Name of Test	Type of Test: Screening	Type of Test: Diagnostic	Number of Respondents Who Use The Test	Percentage of Respondents
Photo Articulation Test	X	X	1	**10%**
Tyst of Language Development		X	**2**	**20%**
Goldman-Fristoe-Woodcock Auditory Skills Test Battery		X	1	10%
Birth-to-Three Developmental Scale		X	3	**30%**
Goldman-Fristoe Test of articulation		X	6	60%
Preschool Language Scale		X	5	50%
Peabody Picture Vocabulary Test		X	5	50%
Peabody Picture Vocabulary Test (Revised)		X	1	10%
Boehm Test of Basic Concepts		X	2	20%
Merrill Language Screening	X		1	10%
Houston Test for Language Development		X	1	10%
Expressive One-Word Vocabulary Test		X	1	10%
Triota	X		3	**30%**
Developmental Activities Screening Inventory		X	1	10%

TABLE 1 (continued)

Name of Test	Type of Test: Screening	Type of Test: Diagnostic	Number of Respondents Who Use The Test	Percentage of Respondents
Developmental Test of Visual-Motor Integration		X	1	102
Goodenough-Harries Draw-A-Man Test		X	1	102
Tempi in Darley Tests of Articulation		X	2	202
McDonald Deep Tests of Articulation		X	1	102
Sequenced Inventory of Communication Development		X	2	202
Test for Auditory Comprehension of Language		X	2	202
Verbal Language Developmental Scale		X	1	102
Wepman Auditory Discrimination Test		X	1	102
Arizone Articulation Proficiency Scale		X	2	202
Illinois Test of Psycholinguistic Abilities		X	2	202
Brigance Diagnostic Inventory of Basic Skills		X	1	102
Detroit Test of Learning Aptitude		X	2	202
Language Assessment Tasks		X	2	202
Life Training Assessment		X	1	102
Preschool Attainment Record		X	1	102

bution of commercially available assessment tests utilized by the respondents. It shows that there were 29 evaluative tests used for the assessment of communicative disorders. Of this number, 93 and 7% were diagnostic and screening tests, respectively. The table indicates that each respondent utiliz'es more than one assessment test; the average is 3.

The table further reveals that respondent overlap in test utilization was 50 to 60% for three tests. These tests are the *Preschool Language Scale* (Zimmerman, Steiner, & Evatt, 1969), the *Peabody Picture Vocabulary Test* (Dunn, 1965), and the *Goldman-Fristoe Test of Articulation* (Goldman & Fristoe, 1969). Otherwise, there is much diversity in the use of assessment tests.

Table 2 reports the usefulness of the commercially available assessment tests utilized by the respondents. In effect, this table is a reduction of Table 1 .

Of the 29 assessment tests reported in Table 1, 12 *or* approximately 41% are useful in developing IEPs. The most useful tests are the *Preschool Language Scale* and the *Goldman-Fristoe Test of Articulation* both reported at 40%.

The *Preschool Language Scale* is a relatively comprehensive assessment test identifying Language and articulation disorders. Specifically, as a language assessment test, it evaluates concept development, auditory processing, and the use of certain grammatical features. These are, clearly, major considerations in the remediation process. Most of the 29 tests used by the respondents are designed to examine restricted areas of language. In order to ascertain a broad perspective on language functioning in an initial evaluation, several of these tests would have to comprise a battery. Because of the time constraints placed on public school speech-language pathologists to expedite the evaluation process, a comprehensive test is preferred.

The Goldman-Fristoe Test of Articulation evaluates a variety of phonemes in single word productions, conversational discourse, and imitative and nominative elicitations. Its utilization is important because its usefulness best reflects ona of the central issue of this investigation. This test is not normed for children under six years of age, but the lack of commercially available, standardized assessment tests for the multiply handicapped necessitates the use of available tests (see previous sections for discussions and considerations on this point). In addition, the multiply handicapped population,

TABLE 2

The most Useful Assessment Tools Reported by Speech-Language Pathologists in Assessing the Communicative Skills of Multiply Handicapped Children for the Development of IEPs.

Name of Test	Type of Test: Standard	Type of Test: Nonstandard	Frequency of Determined Usefulness	Percentage of Determined Usefulness
Arizona Articulation Proficiency Scale	X		1	102
Birth-to-Three Developmental Scale		X	2	202
Boehm Test of Basic Concepts	X		2	202
Brigance Diagnostic Inventory of Basic Skills		X	1	102
Developmental Activities Screening Inventory		X	1	102
Goldman-Fristoe Test of Articulation	X		4	402
Life Training Assessment		X	1	102
Preschool Attainment Record	X		1	102
Preschool Language Scale		X	4	402
Sequenced Inventory of Communication Development	X		1	102
Templin-Darley Tests of Articulation	X		1	102
Test for Auditory Comprehension of Language	X		1	102

depending on the nature of their multiple disabilities, may or may not be functioning at their chronological ages, for example, with mental retardation. This fact further confounds the use of commercially available tests, reflecting the need for clinician-devised tests or for modification of existing ones.

From the frequency of responses, some respondents indicated the usefulness of more than one test. However, as a group, the respondents were in agreement on the usefulness of the smaller selection of assessment tests.

The low percentages associated with usefulness had two components. First, they were tied to the number of tests in use. Thus, respondents were indicating the usefulness of their specific tests. The second component was an outgrowth of the first. In this case, the tests utilized were not useful when assessing the multiply handicapped. This issue is the major concern of this paper.

While Table 1 indicates the respondents' utilization of three commercially available screening tests, Table 3 indicates the specific communicative skills tested when the respondents devised their own screening tests. The table reveals that 70 and 60% of the respondents tested for the recognition of objects and the identification ofprepositions,respectively,

The other communicative competency areas were tested by 50% or less of the respondents. This fact indicates that the testing of specific communicative skills was as varied as the use of the commercially available assessment tests, reflected in Table 1 ; it is also supported In a subsequent analysis involving the selection of test batteries.

Because diagnostic testing indicates assessment for the purpose of deriving a precise classification or identification of an impairment and subsequent remediation, most speech-language pathologists use more than one test in a battery. Table 4 shows the type of test batteries used by the respondents. Like Table 1 , it reveals diversity and data overlap. For example, 70% of the respondents use a test battery or batteries that were different from the other three which were developed by the investigators, based on their experiences and/or preferences. However, some of the respondents also indicated their preference for at least one of the other three specified batteries. This finding is consistent with the data presented in Table 3. In short, there is diversity on the communicative competencies in screening felt important by the respondents.

TABLE 3

Frequency of Appearance of Skills on Speech-Language Pathologist Devised (Clinician-made) Screening Tools for Multiply Handicapped Children.

	Number of Respondents Who Evaluate The Skill	Percentage of Respondents
Recognition of Objects	7	70%
Identification of self	4	40%
Digit/Word repetition	3	30%
Identification of actions	4	40%
Identification of colours	4	40%
Identification of prepositions	6	60%
Identification of the function of objects	4	40%
Identification of body parts	5	50%
Articulation of Phonemes	4	40%
Motor imitation	5	50%
Other	1	10%

Test Batteries used most often by Speech-Language Pathologists assessing the Communicative Skills of Multiply Handicapped Children.

Tests in	Rationale for Use	Number of Respondents Using Battery	Percent
Battery 1 Articulation test Language test (Receptive) Language test (Expressive) Auditory Processing test	For the child who evidences a lag in receptive and expressive language development, as well as an articulation impairment (as in screening results)	4	40$
Battery 2 Articulation test Language test (Receptive) Language sample	For the child who has limited expressive language possibly due to oral motor involvement	3	*30%*
Battery 3 Phonemic probe Parent interview Observation of child's speech and language behaviour	For the low-functioning child with problems such as poor posture/sitting, attending skills, inability to point to or manipulate objects, etc.	2	20?
Battery 4 Developed by Respondents	For concepts and reasons deemed important and appropriate by the clinicians	7	70?

Table 5 addresses the inputs or sources utilized by the respondents to develop their IEPs. For example, the table indicates that 90% of the respondents use both the results of the commercial tests and their own observations. These are followed by parent and teacher interviews, reflecting 80 and 70%, respectively. Several other sources fall below these.

Table 5 reveals several important points. First, it indicates respondent agreement on the importance of the first four sources of input for the development of IEPs. The second point centers around the usefulness of the psychological assessment. Table 5 may lead one to feel that this domain is lacking in the same dimension as language tests are for the multiply handicapped.

The third finding in Table 5 reflects the major issue in this investigation. It is that 90% of the respondents indicate their usage of commercially available tests to develop IEPs, but they also indicate their low regard for the usefulness of these tests, reflected in Table 2. By the same token, most respondents utilize clinician-made screening tests, but only one respondent utilizes the information in developing the IEPs.

Superficially, this finding supports a nonissue, that is, 9 out of 10 respondents used standardized tests. But, the real issue is that the finding supports the operational assumption that speech-language pathologists must use standardized tests. Knowing that standardized tests are inadequate, speech-language pathologists use them because they are responsible and accountable for making decisions under PL 94-142. Regardless of whether standardized tests are used in conjunction with other tests, clinician-devised tests, and/or observations, the weight is toward the former for the purposes of decision-making.

One other important point is worth mentioning. With reference to observations as sources of input, 50% of the respondents indicated that their observations of children are ongoing, that is, before, during, and after the assessment procedure; another 30% indicated they observed the children for one-half hour during the evaluation procedure. The remaining 20% indicated they observe their children approximately one-half hour before screening. This finding reflects a slight variance with the data presented in Table 5, which indicates 90% of the respondents used observational data in the preparation of

Sources of Information Used by Speech-Language Pathologists in the Development of IEPs for Multiply Handicapped Children.

Information	Number of Respondents Who Use This Information	Percentage of Respondents
Standardized Tests	9	90%
Observation	9	90%
Parent Interview	8	80%
Teacher Interview	7	70%
Psychological Assessment	4	40%
Social Assessment	3	30%
Nonstandard Tests	1	10%

IEPs. In short, all of the clinicians used observations as a source of data, with only one respondent not using them in the development of the IEPs.

Discussion

The study attempted to determine the types of assessment tests utilized in evaluating the language and articulation competencies of the multiply handicapped. The rationale for the investigation was developed earlier; it evolved, essentially, because of the dearth of data available on the language competencies of the multiply handicapped and because of the need to have available acceptable assessment tests which reflect these competencies.

The results indicate a diverse utilization of commercially available tests, with little respondent satisfaction. The lack of satisfaction is rooted in the inability of the tests to reveal adequately the language competencies of the population under study.

Ten of the 14 speech-language pathologists who taught multiply handicapped children between the ages of 4 through 8 years responded to a questionnaire developed by the investigators. Although there was a larger population of professionals in the public school systems, there were only 14 professionals who were instructional and/or itinerant teachers working with this population. Thus, the 10 respondents, although a small group in the total number of speech-language pathologists in the school systems, were more than representative of the professionals serving the multiply handicapped population.

The results indicate further that there were 29 language assessment tests, primarily diagnostic, used to evaluate the language competencies of the multiply handicapped. The findings from these tests serve as one of the major inputs for the development of IEPs. Only three tests, the *Preschool Language Scale,* the *Peabody Picture Vocabulary Test* and the *Goldman-Fristoe test of Articulation,* are used by 50 to 60% of the respondents; overlap for the remaining evaluative tests do not exceed 30%. Further, only 12 or 41% of these tests are considered useful by the respondents in evaluating the multiply handicapped. The two most useful tests, reflecting 40%, are the *Goldman-Fristoe Test of Articulation* and the *Preschool Language Scale* as just previously noted, these tests are among the most frequently used.

Related data yield insight

into these primary findings. One of the major considerations associated with the lack of

Satisfaction with testing materials

was respondent diversity on the importance of concepts that need testing. Testing for the recognition of objects and the identification of prepositions are the two concepts agreed upon the most. Other concepts, including articulatory competencies, range below 50%. This finding accounted for the diversity of tests utilized and the general lack of satisfaction with commercially available tests.

The lack of satisfaction with test materials is further supported by the number of respondents who indicated they developed their own testing materials, supplementing inadequate commercial tests. In developing testing materials, respondents report they used differing test batteries, further indicating differences in concepts tested and their importance.

An important finding involves the sources of input for developing IEPs. Respondents indicate standardized tests and observations as the major sources for the development of IEPs. Parent and teacher interviews are a close second and third, respectively. The data indicate a lesser role for the psychologist.

The use of commercial tests as sources of input for the development of IEPS reflects the paradox presented earlier, 1 he tests are used as primary sources of input even though respondents indicated their inadequacies. This is probably due to PL 94-142's mandate to use standardized tests. Respondent observations are of equal importance as sources of input. This probably balanced any discrepancies found with commercial tests.

The implications of this investigation are dear for the profession of speech-language pathology and audiology. First, the current professional literature contains limited information relative to the usefulness of assessment procedures being used for the development of IEPs with multiply Handicapped populations. Therefore, this study is informative. Second, the study indicates that speech-language pathologists were in compliance with PL 94-142 as they implement the assessment process. Third, the study reveals a need to develop tests to delineate the language and articulation competencies of the multiply handicapped.

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