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ABSTRACT

Brief research monographs produced by The Demonstration Center for Language Handicapped (LH) Children are collected. The monographs address the following topics: the historical background and objectives of the language center; the effects of support personnel on the academic performance of LH children; the incidence of language handicaps among kindergarten, third, and sixth grade pupils; the evaluation of selected prekindergarten screening tests for language disability: classroom teacher ratings of the Language center's appraisal objectives; the relationship between the Gates-MacGinitie Reading Test--Readiness Skills--and the Meeting Street School Screening Test; characteristics of LH children, such as auditory comprehension, language, and personal-social skills; alternative roles for the public school speech clinician; the utilization of instructional media, teaching techniques, and student-oriented activities by teachers in the language center; and attitudes of classroom teachers, resource teachers, and educational diagnosticians toward utilization of instructional media, teaching techniques, and student-oriented activities in the language center project. The monographs have been published during two and a half years of research into teaching strategies for helping LH children. (GW)

RESEARCH MONOGRAPHS
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DEMONSTRATION CENTER FOR LANGUAGE-HANDICAPPED CHILDREN

THE LANGUAGE CENTER:
A PROJECT OF THE TEXAS EDUCATION AGENCY AND REGION IV EDUCATION SERVICE CENTER

by Ralph O. Teter, Ed.D.

This is the first of a series of research monographs describing the results of studies conducted by the Demonstration Center for Language-Handicapped Children. The purpose of this monograph is to provide background information on The Language Center, to indicate the objectives for the project, to give a summary of the program, and to present an overview of the research design.

Historical Background

Although interested parents and educators served as a catalyst for creating The Language Center, many other forces worked toward its development. As early as 1963, Texas legislators were attempting to find programs to deal successfully with language-handicapped children. Not only were the implications staggering in terms of human lives, but economic impact on the educational system was astounding. They found that if only one out of 20 children was retained a grade as a result of a language handicap, the cost to the state could be as much as 75 million dollars per year.

In 1965, the 59th Legislature established a committee to study the problem with parents, educators, and other interested citizens. In 1967, this committee made its report to the 60th Legislature, resulting in passage of House Bill 156, which established a twelve-member advisory council for language-handicapped children. Chairman of this important committee was Dr. Arleigh Templeton now President of the University of Texas at El Paso and formerly Chairman of the Health, Education and Welfare Secretary's National Advisory Committee on Dyslexia and Related Reading Disorders.

In 1969, the 61st Legislature–through House Bill 432–established Demonstration Centers for the Identification, Diagnosis and Remediation of Language-Handicapped Children. Proposals were submitted according to Texas Education Agency guidelines, and selection by the agency permitted Region IV Education Service Center to create The Language Center. Region IV is one of twenty Education Service Centers established earlier by the State Legislature to provide many types of educational services to schools on a cooperative basis.

The Language-Handicapped Child

Children of normal, even exceptional intelligence, who have good vision and hearing, may nevertheless have perceptual problems which cause them to print upside down and backwards, copy symbols in reverse, or be unable to read, spell, or calculate. These problems prevent them from progressing at the expected rate in the usual school situation. Clues to these and other types of language difficulties show up in behavior as well as in school work. The child may be hyperactive, distractable, awkward, and noisy.

Objectives

To assist the State in developing programs for the language-handicapped child, the following objectives were pursued by The Language Center.

. . To develop reliable screening procedures.
. . To test and evaluate accuracy, relevance, and usefulness of various diagnostic protocols.
. . To develop an instructional program for the remedia-

THE LANGUAGE CENTER
Region IV, Education Service Center
202 North Loop West
Houston, Texas 77018

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T. S. Hancock, Executive Director, Region IV
Ralph Teter, Ed.D., Project Director

tion of the language handicap.

. . To prepare comprehensive guidelines for staff development.

The Public School Setting

The project operated in a public school setting in the Aldine and Spring districts. Well suited to the project design, these districts met geographical and demographic needs, and readily accepted the responsibilities involved in the two-and-one-half year project.

Aldine is a suburban community located 20 miles north of downtown Houston. Student enrollment in the district is 28,000. The Spring district is adjacent to Aldine and although it is experiencing a steady increase in population, it is more rural than suburban. Spring has a student enrollment of 4,000.

During the first year, the educational program involved 767 students (including controls), 81 teachers, 5 diagnosticians, and 11 resource teachers in 20 schools. During the second year, the study involved 536 students (including controls, but excluding 352 follow-up students), 58 teachers, 6 educational diagnosticians, and 13 resource teachers in 14 schools. Administrative personnel consisted of a project director and three component directors.

The Language Center Program

To achieve the objectives previously stated, certain questions were posed relative to screening, diagnostic, instructional, and inservice training procedures.

Determination of student eligibility. There must have been some demonstrated evidence of language handicap or academic failure. This was determined by the teacher and other local school personnel. The child was not considered eligible if the primary handicap was physical or intellectual. Next, he must have scored significantly below what is expected of his age group on a nationally standardized reading test and a language skill screening test. Finally, parent approval was required. In summary, a child must have been either in the kindergarten, third, or sixth grade; have been referred by one of his teachers; scored poorly on both a reading and a language screening test; and have received parent approval to participate in the study.

Appraisal protocols. Three appraisal protocols were employed in the study. One-third of the students in the project were assigned to each protocol. All teachers were given basic inservice training on how to identify language handicaps of children in their classrooms.

The **cumulative folder** protocol was designed to determine if the classroom teacher, provided with adequate materials and continuous inservice, could plan and implement an effective program of individualized instruction for language-handicapped children without further assistance from trained specialists.

A second appraisal protocol added one element of support for the teacher--the services of an **educational diagnostician.** The diagnostician concentrated her efforts on helping the teacher devise, and continually revise, appropriate plans of instruction. The educational diagnostician assisted the teacher through continuous reassessment of the child's language skill development and academic performance.

The third appraisal protocol incorporated the services of a **multidisciplinary team** and provided the most comprehensive look at the child. The student was examined by a pediatrician, neurologist, psychologist, speech therapist and educators, with additional referrals made as needed. An educational plan was developed and tried, and a follow-up professional staff conference was held at the school.

Organizational patterns tested. One organizational approach tested was that of the **regular classroom** in which four language-handicapped children were intermixed with other youngsters. In half of these classes, an aide provided support for the teacher.

The second organizational approach involved the use of a **resource room.** Twenty-four children went to the resource room for approximately an hour each day for special help. The resource teacher utilized materials and equipment designed to assist children with language handicaps. Again, from the research standpoint, one-half of the resource rooms had a teacher aide.

A third pattern used a classroom with **differentiated staffing.** This room was approximately three times the size of a normal classroom with one teacher serving as instructional manager supported by an educational diagnostician and four teacher aides. There were 50 children with language handicaps in the room. In addition, classrooms were set aside for research control purposes.

Instructional methods and materials. No specific methods or materials were dictated. Materials from more than 80 companies were utilized. Teachers made selections based on their experience and specialized training. In carrying out the educational plan developed for each child, the teacher employed one of several recognized approaches to language development and any form of groupings required.

Personnel

To better serve the language handicapped child, new roles were identified. A brief description of these roles and the training program follows.

Educational diagnostician. The educational diagnostician provided supportive services to the classroom and resource teacher. This work, with approximately one-third of the children in the project, included individualized testing, assistance to the teacher in the development of individualized educational plans, and instructional support to the teacher when necessary and desired.

Resource teacher. The resource teacher worked with small groups of children throughout the day in an environment supported by a variety of special materials which permitted alternative instructional approaches according to each child's pattern of learning. A special effort was made to coordinate the child's work in the resource room with that of the regular classroom. The purpose of the resource room was to support classroom instruction, not to supplant it.

Classroom teacher. The classroom teacher worked with students in a regular classroom environment. Teacher skills

were supplemented by specialized inservice training directed toward the development of observational skills and instructional techniques for language development. Instruction was enhanced by special materials selected according to individual needs.

Teacher aide. The function of the teacher aide, in both the classroom and resource room setting, was to support the teacher. In doing this, the aide performed clerical duties, monitored children in the classroom or other places, and provided direction in drill and practice routines.

Training program. Teacher training was a central element in the project. It was designed by taking into account the expressed needs of teachers. The program emphasized both change in attitude and the development of teaching strategies for specific language skills. Training modules included: strengthening teacher skills in observing language handicaps; utilization of instructional materials; microteaching; development of cognitive skills by building on the strengths of children; and, utilization of instructional objectives by focusing on language development. Nationally known consultants representing various schools of thought assisted in the training program. One important aspect involved the sharing of ideas among the participating teachers.

Evaluation Procedures

The project was evaluated by both internal and external measures. For the child, the measure of success was academic progress. Each child in the project was given pretest and posttest measures of academic potential, performance, and language proficiency. In addition, a measure of intellectual functioning was obtained. An analysis of these data permitted both research and operational decisions to be made. Externally, the project was monitored by a third party evaluation team.

Overview of the Research Design

In one sense, four distinct experiments were conducted the first year. These involved three instructional programs for three appraisal protocol types at three levels under two conditions of teacher aides (with and without). Each of these four experiments attempted to establish the effect or the associative conditions of an experimental (independent) variable upon the achievement of children who had previously been identified as possessing a language handicap (Figure 1).

APPRAISAL PROTOCOL

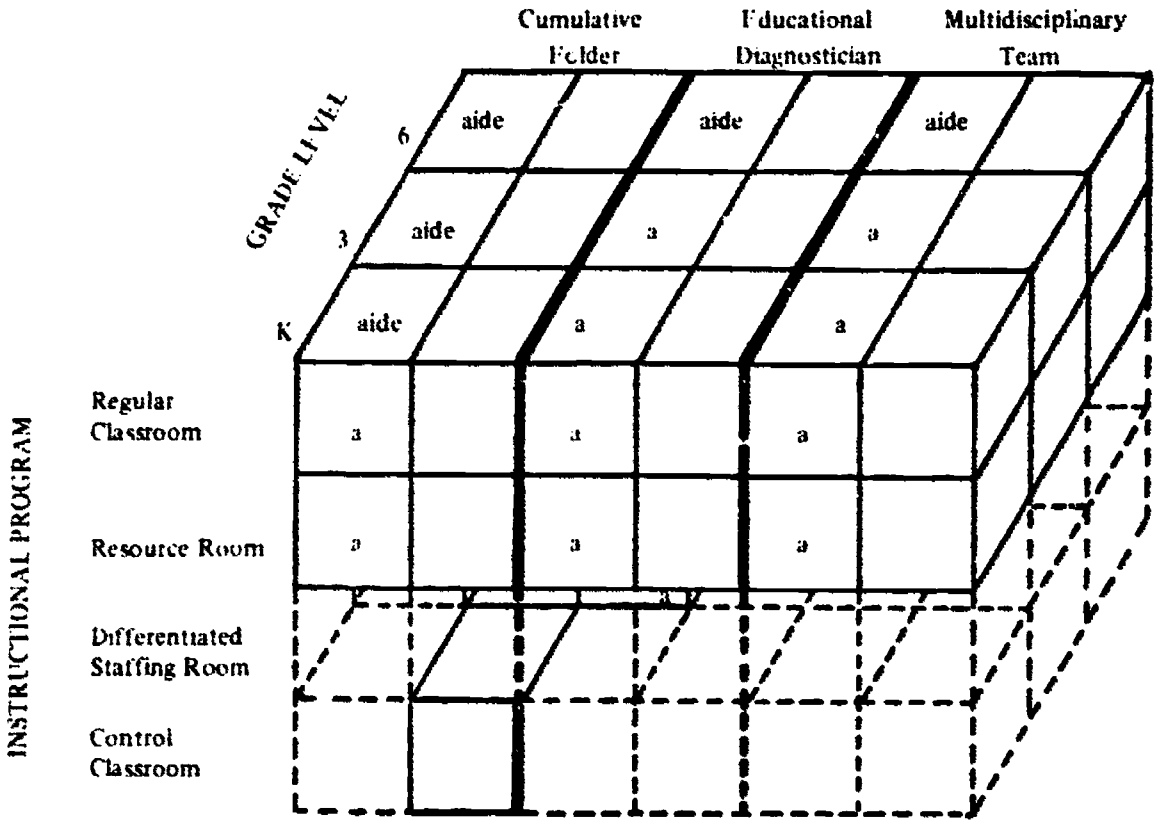

Figure 1

"Achievement" was defined in general as the criterion (dependent) variable for the studies that derived from the operation of The Language Center. This term was defined specifically in three different ways when varied components of the project were investigated and analyses of status, change, and trend were conducted.

In all instances, the element that was measured as a dependent variable was some product by a child who was diagnosed as possessing a language handicap. The investigations sought to determine the effects of four different kinds of independent variables upon that product.

The first independent variable was that of *instructional programs* which were selected as being potentially beneficial to language-handicapped students. The second variable was that of *appraisal protocols* that were utilized in diagnostic work with the students. The use of three different *grade levels*, as a third variable, provided information as to the nature of language handicaps at various scholastic levels (ages). In the contrasts of *teacher aides* (with or without), the object was to determine the potential effectiveness of paraprofessionals in the teaching situation.

The research design for the project had a number of different types and levels of control, making it possible to evaluate the various experimental conditions and their interactions for a series of criterion measures.

Within the practical limitations of working within functioning school systems, student and teacher selection was carried out in such a manner that bias was minimized. Sampling procedures were expected to produce data of a quality usable in the statistical analyses with good generalizability.

Data were gathered in such form that they could readily be subjected to analysis by computer (CDC 6600, Region IV Education Service Center). The primary statistical technique used to test hypotheses was analysis of variance, and the research design was formulated to facilitate such procedures.

Implications of the Study for Texas Education

Educational programs which will permit boys and girls with language and/or learning handicaps to experience academic success must be developed. Texas, through the leadership of the Texas Education Agency, is evaluating three approaches to enable every child to achieve his fullest educational potential.

The first of these, a shift-of-emphasis program known as Plan A, is designed to keep the language-handicapped child in the regular classroom as much as possible. A second approach provides for developmental centers for language and/or learning handicaps.

In addition, two research-oriented projects, of which The Language Center is one, were established to furnish data from public school settings.

The Texas Education Agency will use the information submitted by all these programs to develop guidelines to assist local school districts in establishing programs to help children achieve greater academic progress. By the 1975 school year, the goal is to provide the best remediation possible to every type of language-handicapped child while maintaining his contact with the regular classroom and its students.

This project was funded through
the Division of Special Education,
Texas Education Agency.

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REGION IV

DEMONSTRATION CENTER FOR LANGUAGE-HANDICAPPED CHILDREN

EFFECTS OF SUPPORT PERSONNEL ON THE ACADEMIC PERFORMANCE OF LANGUAGE-HANDICAPPED CHILDREN

by Max D. Miller, Ed. D. and Ralph O. Teter, Ed. D.

For approximately fifteen percent of the children in the United States, the regular school experience is inappropriate due to disabilities in language functions that are essential for school achievement. These are children who, in spite of apparently adequate intelligence and emotional stability, exhibit difficulties in learning to read within a teaching program that is effective for most children. Based on statewide interest in developing approaches for helping these children with programs applicable in a public school setting, the Texas Legislature authorized the establishment of The Demonstration Center for Language-Handicapped Children.

Background for the Study

The term "language disability" excludes those children who have deficits in vision and hearing, who are severly emotionally disturbed, and who are mentally retarded. It is a disability which interferes with a child's performance in reading, writing, spelling, and speaking to the extent that there is a significant discrepancy between the child's academic performance in his peer group and his potential for learning.

One factor considered in the research design developed by The Demonstration Center for Language-Handicapped Children was the effect on student achievement of various types of support personnel for the regular classroom teacher. This study considers the effects due to resource specialist and teacher aide support.

Professionally-trained resource specialists provided support to classroom teachers by working with 24 students identified as language-handicapped. Small groups, based on specific disability, went to the resource room for approximately one hour each day for special help. The resource specialist planned and implemented instruction using a variety of materials and methods. One-half of the resource specialists received full-day teacher aide support.

The teacher aide provided half-day support to one-half of the regular teachers whose classrooms had from three to five language-handicapped children. These aides had received special training relative to serving the language-handicapped child.

Statement of the Problem

The effect of support personnel on academic achievement of language-handicapped children has not been adequately investigated heretofore. The purpose of this study was to examine the effect of teacher aides and resource specialists on the academic achievement of language-handicapped children in the kindergarten, third, and sixth grades. Formally stated questions concerning the use of teacher aides and resource specialists were as follows:

1. What effect does the availability of teac'er aides in various school programs have on language-handicapped students' academic progress?
2. What effect does the availability of resource specialists in various school programs have on language-handicapped students' academic progre ..?
3. What effect does the combination of resource specialist and teacher aide have on language-handicapped students' academic progress?

A research method and appropriate hypotheses were developed to investigate these questions.

Hypotheses

Formally stated null hypotheses related to the research questions were as follows:

Hypothesis 1:
In terms of academic growth, there were no differences between language-handicapped children who had aide support and language-handicapped children who had no aide support.

Hypothesis 2.
In terms of academic growth, there were no differences between language-handicapped children who were in a regular classroom and language-handicapped children who had access to a resource specialist.

Hypothesis 3.
In terms of academic growth, there were no interaction effects between teacher aide availability and resource specialist availability.

THE LANGUAGE CENTER
Region IV, Education Service Center
202 North Loop West
Houston, Texas 77018

VOL. 1 NO. 2

T. S. Hancock, Executive Director, Region IV
Ralph Teter, Ed.D., Project Director

Method

For the purpose of the study, academic growth was defined as change in scores on the *Stanford Achievement Test* for the third and sixth grade pupils and the *Stanford Early School Achievement Test* for kindergarten pupils. Mathematics, spelling, and reading comprehension were the academic areas examined for 88 kindergarten, 87 third-grade and 109 sixth-grade language-handicapped students. The students were randomly placed in either an experimental or control condition, e.g., the students were placed in an aide-no aide condition and in a resource specialist-no specialist condition. The tests were administered according to standardized procedures in the fall of 1971 and again in the spring of 1972. Change scores, the difference between pretest and posttest scores, were used for analysis of academic growth. A 2 x 2 factorial analysis of variance design was chosen to test the hypotheses for each criterion measure and for each grade level.

Results

Results of the analyses of data from the multiple dependent variables were examined separately for kindergarten, third, and sixth grade students. Each hypotheses was tested for three criterion measures.

Kindergarten. Kindergarten students with an aide and part of their day spent with a resource specialist received significantly greater change scores on the comprehension test than students without an aide in the regular classroom. In terms of the spelling subtest, students with an aide had significantly greater change scores than those without an aide. In terms of the mathematics subtest, those students who spent a part of their day in the resource room had greater change scores than those in the regular classroom.

In examining the three criterion of academic achievement for kindergarten students in terms of the three hypotheses, the results were as follows:

- . . Hypothesis 1, aide-no aide, was rejected for spelling and comprehension, but not for mathematics.
- . . Hypothesis 2, resource specialist-no specialist, was rejected for comprehension and mathematics, but not for spelling.
- . . Hypothesis 3, interaction effects, was rejected for comprehension, but not for mathematics and spelling.

Third grade. Third grade students with an aide had greater change scores in the spelling subtest than students without an aide. Analysis revealed no apparent differences in terms of the aide-no aide condition and in terms of the resource room-regular classroom condition for the comprehension and mathematics subtests.

Examination of the criteria of achievement in relation to the three hypotheses revealed the following:

- . . Hypothesis 1 was rejected for the spelling subtest.
- . . Hypothesis 2 was not rejected for any of the criterion.
- . . Hypothesis 3 was not rejected for any of the criterion.

Sixth grade. Sixth grade students with an aide had greater change scores on the spelling subtest than students without an aide. Further, students with an aide in the regular classroom had greater change scores than students with an aide who spent part of their day in a resource room.

Examined in relation to the hypotheses the results were as follows:

- . . Hypothesis 1 was not rejected for any of the criterion.
- . . Hypothesis 2 was rejected for spelling, but not for comprehension and mathematics.
- . . Hypothesis 3 was rejected for spelling, but not for mathematics and comprehension.

A summary of the results of the analyses of variance is presented in Table 1.

TABLE 1
ANALYSIS OF EFFECT ON STUDENT ACHIEVEMENT OF SUPPORT PERSONNEL

	Probability for Rejection of Hypothesis		
HYPOTHESES	Kindergarten	Third	Sixth
Hypothesis 1 (Aide-No Aide)			
Mathematics	NS	NS	NS
Spelling	.01	.01	NS
Comprehension	.01	NS	NS
Hypothesis 2 (Resource Specialist-No Specialist)			
Mathematics	.05	NS	NS
Spelling	NS	NS	.01
Comprehension	.01	NS	NS
Hypothesis 3 (Interaction Effects)			
Mathematics	NS	NS	NS
Spelling	.01	NS	.01
Comprehension	NS	NS	NS

Discussion

The design of the program under study focused on the classroom teacher and the personnel support available to better serve boys and girls with language disabilities. Within the research design, special emphasis was placed upon the effects resulting from providing this support to the teacher. Using change in academic achievement, measured by the *Stanford Early School Achievement Test*, as the criterion, kindergarten students were helped by both the teacher aide and a resource specialist. For third grade and sixth grade students, change scores were typically the same for students regardless of program or aide condition. It was not demonstrated that the aide or the resource room had a differential effect on change scores. However, kindergarten students with support personnel showed significant increases in achievement when compared with their counterparts who had no support personnel involvement.

These results indicate that support personnel emphasis should be extended to language-handicapped children in preschool and primary grades. This support should be in the form of teacher aides and resource specialists.

This project was funded through
the Division of Special Education,
Texas Education Agency.

RESEARCH MONOGRAPHS
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REGION

DEMONSTRATION CENTER FOR LANGUAGE-HANDICAPPED CHILDREN

INCIDENCE OF LANGUAGE HA. CAPS AMONG KINDERGARTEN, THIRD, AND SIXTH GRADE PUPILS

by Max D. Miller, Ed. D. and James R. Hale, Ph. D.

In recent years there has emerged an awareness by educators that some children exhibit an inability to perform adequately in school due to a dysfunction in one or more language areas. Many of these children are faced with a school experience which is inappropriate to their learning circumstances and leads them to failure, frustration, and defeat.

Estimates of the incidence of this problem have ranged from a low of five percent to a high of twenty percent of the total school population. It is generally assumed that at least fifteen percent of the school population can be placed into a category of "language-handicapped" (McCarthy and McCarthy, 1969, p.15).

It is interesting to note that most studies of the language-handicapped child do not include or consider students with below normal intelligence. However, it has been shown that a student's performance on intelligence tests can be adversely affected by specific language dysfunctions (Myklebust, 1968; Hale and Kerley, 1972; Thorne, 1972).

Definition of Language Handicap

The definition for language handicap adopted by The Language Center states that children with developmental disabilities are those who consistently show a significant discrepancy between their potential for performing and their actual performance in one or more basic language areas – auditory, spoken, reading, and written language – and who have not developed effective compensatory skills. This definition includes children who score above or below average on standardized intelligence tests, but does not include those who score in the mentally retarded range. Also, excluded from this definition are children whose language skill deficits are primarily attributed to bilingualism, emotional disturbance, sensory deficit, or physical impairment.

Statement of the Problem

From a population of students, there are some who are suspected by parents and teachers as having academic difficulties of an unspecified nature. Upon further examination these children may be diagnosed as having a specific language disability. In terms of planning, it is important for teachers and administrators to know how many children reside in a school district who are language handicapped. Stated formally the question becomes: What percentage of the school population is language handicapped?

Furthermore, it is important to educational planners to have information concerning the ability levels of those children who have been identified as language handicapped. Stated formally the question becomes: What percentage of those students identified as language handicapped score in the average or above range of intelligence as measured by a standardized intelligence test?

Procedure

Participating schools were randomly selected from the Aldine Independent School District. Students were screened for language handicaps at the kindergarten, third, and sixth grade levels. The screening procedure entailed three sequential phases of screening operations.

The objective of the first phase in the screening process was to identify from the total screening population those youngsters suspected of having a language handicap. This was accomplished at the kindergarten level through predetermined ratio cut-off scores on the ABC Inventory (Adair, 1965). Third and sixth grade pupils were identified through teacher referral after the teacher had received an orientation about the behavioral characteristics of language-handicapped pupils and had received all available screening data on the youngsters in question.

During the second phase of screening operations, the language skills of referred pupils were rated by the classroom

teacher and evaluated by Language Center resource specialists and educational diagnosticians. Kindergarten pupils were rated with the Kindergarten Language Skills Checklist (Language Center Quarterly Report Number 6). Third and sixth grade students were rated with the Pupil Rating Scale (Myklebust, 1971) and the Language Center Reading and Written Language Supplement to the Pupil Rating Scale (Language Center Quarterly Report Number 4, 1972).

The third and final phase of the screening program involved the administration and evaluation of selected language diagnostic tests. This last step in the screening procedure did not include kindergarten pupils. Because of the paucity of reliable diagnostic measures available for this age group and the frequent reversal of apparent language deficits during the first year of school, it was decided to postpone final diagnosis until the end of the school year. Consequently, the kindergarten study sample was more appropriately described as five and six year old children with "potential" language handicaps.

All third and sixth grade pupils were administered standardized tests of intelligence and classified as either average and above or below average in intelligence. Kindergarten pupils were not administered intelligence tests due to the unreliability of group administered measures with this age group and because of the time constraints imposed by individually administered tests.

Results

Following the screening procedures described above the numbers of students at each phase in a grade were determined. The results of this enumeration will be presented separately for kindergarten, third and sixth grade.

Kindergarten. Of the 429 students in the kindergarten sample, 206 or 48.5 percent were suspected by analysis of the ABC inventory of having an academic disability (Phase I). From this sub-population 98 students were determined to be high risk for language disability (Phase II) and subsequently placed in a potential language handicapped category (Phase III). This procedure was unique for kindergarten and yielded 22.8 percent of the total population identified as potentially language-handicapped. The results of the analyses are summarized in Table 1.

Third Grade. Of the 906 students in the third grade sample, 222 or 24.5 percent were determined by the teachers to have academic difficulties and were suspected to have a language handicap (Phase I). From this subpopulation 200 children were determined by the procedure previously cited to be high risk for language disability (Phase II). This constituted 22.1 percent of the original population. Of the 200 high risk students 137 were found to be language-handicapped (Phase III). Thus, from the total population of 906 students, 15.1 percent were found to be language-handicapped. This percentage conforms to estimates cited by McCarthy and McCathy (1969). Of the 137 language-handicapped children, 111 or 81.3 percent were found to have I.Q. scores at or above 90. The results of the analyses are summarized in Table 1.

Sixth Grade. One thousand five hundred seventeen students in the sixth grade were screened for language disability. From this original population, 386 or 25.4 percent were suspected to be language-handicapped (Phase I). Following an evaluation by the teachers and diagnosticians, 213 students were determined to be high risk for language disability (Phase II). This number constituted fourteen percent of the original population. From the high risk group 166 were diagnosed as language-handicapped (Phase III). This represented 11.6 percent of the original sixth grade population. Of the 166 students diagnosed as language-handicapped, 86 or 52 percent had I.Q. scores above 90. The results of the analyses are presented in Table 1.

TABLE 1
PERCENT OF PUPILS IDENTIFIED BY GRADE LEVEL IN EACH PHASE OF THE SCREENING PROCESS

	Study Population	Phase I Suspect		Phase II High Risk		Phase III I.D.	
GRADE LEVEL	N	N	%	N	%	N	%
Kindergarten	429	206	48.5	98	22.8*	98	22.8*
Third Grade	906	222	24.5	200	22.1	137	15.1
Sixth Grade	1517	386	25.4	213	14.0	166	11.6
TOTAL	2852	814	--	511	--	401	--

* High risk Kindergarten students were placed in a "potential language-handicapped" category.

SUMMARY

From the population of kindergarten students 22.8 percent were determined to be potential language-handicapped. From the population of third grade students 15.1 percent were determined to be language-handicapped. From the population of sixth grade students 11.6 percent were determined to be language-handicapped. The discrepancies between these proportions were shown to be significant at the 0.01 level by using a formula from Glass and Stanley (1970, p. 325). Further, the discrepancy between the proportions of language-handicapped students with I.Q. scores above 90 in the third grade and those in the sixth grade was shown to be significant at the 0.01 level.

Discussion

Two important implications for educational planners may be drawn from the results of the study. Both are derived from the inverse relationship found with grade level on the one hand and proportion of identified language-handicapped pupils and accompaning learning potential on the other. First, there appears to be fewer youngsters with language-handicaps in the sixth grade than in the third grade. The study supports the widely accepted estimate of 15 percent incidence of language-handicaps for third grade students, but shows this figure to be an overestimate with sixth graders. Second, fewer language-handicapped pupils appear to demonstrate normal intellectual coping skills at the sixth grade level than in third grade. The implication here is that greater remediation success can be expected from third grade students than sixth grade students. Thus, while there are fewer language-handicapped pupils in the sixth grades, the pregnosis for remediation is less favorable.

From a developmental viewpoint, it may be postulated that children with mild language disability and normal intelligence effectively alleviate or compensate for their disability by the time they reach the sixth grade. The remainder appear either to be more severely disabled or to possess limited intellectual skills.

Educational planners should give consideration to the compensatory skills of those third and sixth grade students with I.Q. scores below 90. Further consideration should be given to the differences in proportion and remediation prognosis of language handicaps at different grade levels when planning special programs of intervention

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DEMONSTRATION CENTER FOR LANGUAGE-HANDICAPPED CHILDREN

AN EVALUATION OF SELECTED PRE-KINDERGARTEN SCREENING TESTS FOR LANGUAGE DISABILITY

by James R. Hale, Ph.D. and Emma Metzler, M. Ed.

Background

One of the objectives of The Language Center was to develop a valid, yet practical procedure for screening language disabilities at the kindergarten level. Since most kindergarten screening programs begin at the end of the school year, the majority of available language screening instruments have been standardized with children whose age ranges begin at six years. The Language Center project aimed at early identification of high risk children during pre-kindergarten registration and required a screening instrument that was valid with five-year olds.

Problem

A number of recently published tests proposed varying degrees of validity in identifying potential language disability among pre-school children. The problem posed to The Language Center was one of selecting the most suitable test in terms of measurement validity, ease of administration and scoring, and test time.

Procedure

Forty pre-school measures of language disability were reviewed by three educational diagnosticians and four resource specialists. Each test was evaluated on the basis of five criteria.

1. Designed for administration by classroom teachers.
2. May be scored and interpreted by classroom teachers.
3. Size and character of test items are appropriate for the five year level.
4. Average administration time per child does not exceed twenty minutes.
5. Identifies language disabilities in five-year old children with moderate ($r > .60$) or better validity.

Results

Eighteen tests were excluded from the list because of insufficient normative data. Of the remaining 22 tests, 18 were designed for individual administration and three for administration to small groups of children at a time. Table 1 includes a list of the 22 screening instruments and indicates the relative utility of each by specifying which evaluative criteria were satisfied. A brief description of each measure including publisher's name and address is listed in Table 2.

Only four instruments satisfied all five selection criteria. These were the ABC Inventory, Meeting Street School Screening Test, Anton Brenner Developmental Gestalt Test of School Readiness and the Dallas Pre-School Screening Test. The latter three were rejected by The Language Center in favor of the ABC Inventory because longer periods of pre-service training and test administration time were required in order to obtain similar information. Furthermore, with the Meeting Street School Screening Test, the basal age did not extend below five years preventing a valid assessment of language skills with the younger kindergartners.

TABLE 1

PRE-KINDERGARTEN LANGUAGE SCREENING TEST
CRITERION CHECKLIST

SCREENING TESTS	Evaluation Criteria				
Individually Administered	1	2	3	4	5
1. ABC Inventory	X	X	X	X	X
2. Assessment of Children's Language Comprehension	X	X			
3. Anton Brenner Developmental Gestalt Test of School Readiness	X	X	X	X	X
4. Caldwell Pre-School Inventory	X	X	X	X	
5. Communicative Evaluation Chart - Infancy to five years	X	X	X		
6. Dallas Pre-School Screening Test	X	X	X	X	X
7. Denver Developmental Screening Test	X	X	X	X	
8. Early Detection Inventory	X	X	X		
9. Basic Concept Inventory	X	X	X		
10. Houston Test for Language Development					
11. Meeting Street School Screening Test	X	X	X	X	X
12. Parent Readiness Evaluation of Pre-Schoolers	X	X			
13. PREP BRIEF - Readiness Test for Disadvantaged Pre-School Children	X	X	X	X	
14. School Readiness - Gesell Institute			X		X
15. Utah Test of Language Development			X		X
16. Valett Developmental Survey of Basic Learning Abilities	X	X	X		
17. Valett Psychoeducational Inventory of Basic Learning Abilities	X	X	X		
18. Verbal Language Developmental Scale	X	X	X		
19. Pre-School Language Scale	X	X	X	X	
(Group Administered)					
1. Boehm Test of Basic Concepts	X	X	X	X	
2. Screening Test of Academic Readiness	X	X	X	X	
3. Screening of the Assessment of Remedial Treatment	X	X	X	X	

TABLE 2

SHORT-TIMED SCREENING TESTS OF LANGUAGE DISABILITY IN FIVE AND SIX YEAR OLD BOYS AND GIRLS

ABC INVENTORY

Author: Normand Adair and George Blesch

Publisher: Educational Studies & Development, 1357 Forest Pk., Muskegon, Michigan 49441

Description: "The principle purpose of the ABC Inventory is to identify children who are immature for a standard school program. Aims in developing the inventory were to: (1) devise a screening technique that was reliable and valid; (2) construct a format that was easily managed by inexperienced examiners; (3) outline administration, scoring and interpretation procedures that were direct and uncomplicated; (4) maintain economy by minimizing equipment needs and time consuming procedures; and (5) be suitable to children in the pre-school age range." 1965.

ASSESSMENT OF CHILDREN'S LANGUAGE COMPREHENSION (ACLC)

Author: Carol R. Foster, Jane J. Giddan, and Joel Stark

Publisher: Consulting Psychologists Press, 577 College Avenue, Palo Alto, California 94306

Description: " Language delayed children have demonstrable deficits in short term memory. Clinical reports often refer to 'poor auditory memory span,' 'auditory perceptual problems,' and 'auditory' difficulties. This language scale was designed to determine the number of elements which a child can process as well as the nature of his difficulty. It attempts to provide a more precise description of the level at which the child is unable to process lexical items." 1969.

ANTON BRENNER DEVELOPMENTAL GESTALT TEST OF SCHOOL READINESS

Author: Anton Brenner

Publisher: Western Psychological Services
A Division of Manson Western Corporation
12031 Wilshire Boulevard, Los Angeles, California 90025

Description: "Widely used instrument to rapidly identify school readiness. Predicts success in kindergarten and first grade for children aged 5 to 6 years. Almost "Culture-Free" and can be used with non-English speaking and culturally deprived. Identifies early maturing and/or gifted; slowly maturing and/or retarded; and the emotionally disturbed." 1964.

CALDWELL PRESCHOOL INVENTORY, REVISED EDITION

Author: Bettye M. Caldwell

Publisher: Education Testing Service, Box 999, Princeton, New Jersey 08540

Description: "The Caldwell Pre-school Inventory is designed to measure achievement in areas regarded as necessary for success in school. Developed for use with children in the three-to-six age range. It can be administered individually in approximately 15 minutes."1970.

COMMUNICATIVE EVALUATION CHART FROM INFANCY TO FIVE YEARS

Author: Ruth M. Anderson, Madeline Miles, and Patricia A. Matheny

Publisher: Educators Publishing Service, Inc.
75 Moulton Street, Cambridge, Massachusetts 02138

Description: "This chart may be used for a quick appraisal of a child's overall performance and language abilities and disabilities. It contains four printed pages of language and performance levels for the child of 3 months, 6 months, 9

months, 12 months, 18 months, 24 months, 36 months, 4 years, and 5 years of age." 1963.

DALLAS PRE-SCHOOL SCREENING TEST

Author: Robert Percival and Suzanne Paxon

Publisher: Dallas Educational Diagnostic and Development Center, 7255 Central Expressway, Richardson, Texas 75080

Description: The Dallas Pre-school Screening Test is designed to screen the primary learning areas for children from three to six years of age. The primary learning areas screened are psychological, auditory, visual, motor, language, and articulation development. The test is problem solving and the tasks are graded as successful or non-successful compared to the expected normal development of the child.

DENVER DEVELOPMENTAL SCREENING TEST

Author: William K. Frankenburg, Josiah B. Dodds, and Alma W. Fandal

Publisher: University of Colorado Medical Center

Description: "The Denver Developmental Screening Test (DDST) was designed and standardized to meet the need of having a simple, useful tool to aid in the early discovery of children with developmental problems. The test is designed for use by people who have not had special training in psychological testing and is easy to give and score. A child is tested on only twenty or so simple tasks or items". 1970.

VERBAL LANGUAGE DEVELOPMENT SCALE

Author: Merlin J. Mecham

Publisher: American Guidance Service, Inc. (AGS) Publishers' Building Circle Pines, Minnesota 55014

Description: "The Verbal Language Development Scale (VLDS) is an expansion of the verbal portion of the Vineland Social Maturity Scale. It yields a language age equivalent based on a child's level of communication." Age range is one month to 15 years. 1959.

PRE-SCALE LANGUAGE SCALE

Author: Irla Lee Zimmerman, Violette G. Steiner, and Robert L. Evatt

Publisher: Charles E. Merrill Publishing Co., Columbus, Ohio

Description: "This language scale has been designed for child development specialists, such as psychologists, speech therapists, teachers and administrators. It can be used with children of all ages who are assumed to be functioning at a pre-school or primary language level." 1969.

BOEHM TEST OF BASIC CONCEPTS

Author: Ann E. Boehm

Publisher: Educational Records Bureau (ERB), P. O. Box 796, Greenwich Connecticut 06830

Description: "The Boehm Test of Basic Concepts is recommended for use by schools interested in measuring children's mastery of concepts considered necessary for achievement in the early years of school. The test is appropriate for use with children in kindergarten and first and second grades. Results from the test are useful both for identifying children with deficiencies in concept mastery and for pointing out individual concepts on which the children can profit from instruction." 1967.

SCREENING TEST OF ACADEMIC READINESS

Author: A. Edward Ahr

Publisher: Priority Innovations, Inc., P. O. Box 792 Skokie, Illinois 60076. (312) 729-1434

Description: "STAR was specifically designed for preschool and kindergarten age children. This unique innovation in group testing results in a deviation IQ and eight subtest scores to highlight strengths and weaknesses related to school readiness. The subtests include: (1) Picture Vocabulary, (2) Letters, (3) Picture completion, (4) Copying, (5) Picture Description, (6) Human Figure Drawing, (7) Relationships, and (8) Numbers. Total score can be quickly converted into a deviation IQ from tables provided in the manual." 1966.

SCREENING TEST FOR THE ASSIGNMENT OF REMEDIAL TREATMENTS (START)

Author: A. Edward Ahr

Publisher: Priority Innovations, Inc.

Description: "START was specifically designed for preschool and kindergarten age children. This unique innovation in group testing provides stanine scores in four subtest areas plus an overall index to highlight strengths and weaknesses related to visual-auditory-motor-discrimination functioning." 1968.

PREP BRIEF READINESS TEST FOR DISADVANTAGED PRE-SCHOOL CHILDREN (HEW)

Author: This PREP kit was adapted from the final report of a project conducted by Wanda Walker, Northwest Missouri State College, Maryville, and supported by the Office of Education.

Publisher: U. S. Department of Health, Education, and Welfare/Office of Education – National Center for Educational Communication.

Description: "An inexpensive nonverbal test, with directions which can be easily followed by teacher and directors who are relatively untrained in test-administration-interpretation. Designed for workers with disadvantaged children."

SCHOOL READINESS TEST

Author: Frances L. Ilg and Louise Bates Ames

Publisher: Western Psychological Services, 12031 Wilshire Boulevard, Los Angeles, California 90025

Description: "Basic educational viewpoint of Gesell Institute that children aged 5-10 years should be grouped, promoted, and generally evaluated on basis of developmental or behavioral age and not CA or IQ." 1965.

UTAH TEST OF LANGUAGE DEVELOPMENT

Author: M. J. Mecham, J. L. Jex, and J. D. Jones

Publisher: Communication Research Associates, Box 11012, Salt Lake City, Utah

Description." Provides the clinician with an objective instrument for measurement of expressive and receptive verbal language skills in both normal and handicapped children. It not only provides a broad overall picture of expressive and receptive skills, but utilizes the developmental approach for appraisal of language readiness." 1967.

VALETT DEVELOPMENTAL SURVEY OF BASIC LEARNING ABILITIES

Author: Robert E. Valett

Publisher: Consulting Psychologists Press, 577 College Avenue, Palo Alto, California

Description: "The Survey was compiled in order to aid teachers and others concerned in evaluating various developmental abilities of children between the ages of two and seven, for the purpose of helping in the planning of individualized learning programs. It is anticipated that the Survey will be of major value in working with children who have specific learning disabilities and in the development of remedial or preventive education." 1966.

VALETT PSYCHOEDUCATIONAL INVENTORY OF BASIC LEARNING ABILITIES

Author: Robert E. Valett

Publisher: Fearon Publisher

Description: The INVENTORY samples educational tasks from each of the 53 basic learning abilities. Levels of task difficulty include:

B - Beginning tasks, ages 5 - 8;
M - Middle-level tasks, ages 8 - 10;
A - Advanced tasks, ages 10 - 12."

EARLY DETECTION INVENTORY

Author: F. E. McGahan, and Carolyn McGahan

Publisher: Follett Educational Corporation, 1010 West Washington Boulevard, Chicago, Illinois 60607

Description: "Pre-school children in transitional and upgraded primary classes. Screening and evaluating a child's readiness in the areas of social, emotional, motor and intellectual development. The examiners' manual provides comprehensive instructions for screening, rating, and remedial planning." 1967.

BASIC CONCEPT INVENTORY

Author: Siegfried Engelmann

Publisher: Follett Educational Corporation, 1010 West Washington Boulevard, Chigaco, Illinois 60607

Description: "Preschool through Grade 3; can be used with children up to ten years. Especially useful with experimentally deprived or emotionally disturbed. A broad checklist of basic concepts a child needs to do primary grade work; gives the teacher information about the specific skills a child lacks." 1967.

HOUSTON TEST FOR LANGUAGE DEVELOPMENT

Author: Margaret Crabtree

Publisher: Houston Test Company, P. O. Box 35152, Houston, Texas 77035

Description: "Evaluates the spontaneous language of a child in the span of a testing period." 1963.

MEETING STREET SCHOOL SCREENING TEST

Author: Peter K. Hainsworth and Marian L. Siqueland

Publisher: Crippled Children and Adults of Rhode Island, Inc., 333 Grotto Avenue, Providence Rhode Island 02966

Description: "The Meeting Street School Screening Test (MSSST) is an individually administered, 15 to 20 minute test to aid in spotting those kindergarten and first grade children who do not possess the requisite language and visual-perceptual-motor skills and gross motor control to adequately process the symbolic information of the traditional school curriculum." 1969.

PARENT READINESS EVALUATION OF PRE-SCHOOLERS (PREP)

Author: A. Edward Ahr

Publisher: Priority Innovations, Inc., P. O. Box 792, Skokie, Illinois 60076

Description: "PREP was designed primarily to allow parents to gain objective information about their child to supplement their subjective opinions. PREP assesses skills and abilities in fourteen separate areas, in addition to yielding verbal, performance and total scores. The verbal subtests include general information, comprehension, opposites, identification, verbal associations, verbal description, listening and language. The performance subtests include concepts, motor coordination, visual-motor association, visual interpretation and auditory and visual memory."

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DEMONSTRATION CENTER FOR LANGUAGE-HANDICAPPED CHILDREN

CLASSROOM TEACHER RATINGS OF THE LANGUAGE CENTER APPRAISAL OBJECTIVES

by James R. Hale, Ph.D.

The purpose of the Language Center's appraisal component was to establish the most accurate and practical means of (1) identifying specific language disability (2) determining appropriate teaching strategies and (3) successfully communicating the educational implications to the child's teacher. A further objective was to answer the questions of how extensive should a program of appraisal be, and which procedure would be most effective in transmitting this information in a manner that was both practical for the school district and meaningful to the classroom teacher. To answer these questions, three appraisal protocols were designed to interface three instructional programs at three grade levels.

Description of Appraisal Protocols

Protocol I: multidisciplinary team. The first procedure represented the "multidisciplinary team" approach to pupil appraisal. It provided the most comprehensive look at the child, but was also the most costly and time consuming. By "multidisciplinary team" was meant that the language-handicapped child was first screened by the school nurse for vision and hearing abnormalities, then by the speech therapist for speech and articulation difficulties. A detailed family history form was completed by the parents and the youngster was given a physical examination by a pediatrician. The child was then given a battery of educational and psychological tests by a state certified psychologist.

When all appraisal information had been gathered on all of the language-handicapped children from a particular school, a time was set and the individual examiners met as a group in the school building. At this time, a pediatric neurologist joined the group to review the child's medical history and determine if more specialized examinations were indicated. Present also at the meeting were the classroom teacher, school principal, school counselor, nurse, speech therapist, and the district's director of special education. As each group of children was reviewed, the classroom teacher was relieved by a substitute teacher and became an active member of the pupil staffing conference.

Protocol II: educational diagnostician. The second procedure provided the classroom teacher with the help of a trained educational diagnostician. Five educational diagnosticians were initially employed to work with resource teachers and classroom teachers. One was assigned to work in each of the three grade levels. Another diagnostician worked in a large third grade classroom which had differentiated staffing. The fifth diagnostician worked with teachers of all three grades. Together, educational diagnosticians effectively served close to one-half the project pupils.

The educational diagnostician met frequently with the teacher and provided assistance in determining how language-handicapped children could best be taught. The procedure entailed continuous reassessment of performance objectives for each child, but was considered a local approach to the problem. All assessment and planning was done by just two people–the educational diagnostician and the pupil's teacher–with additional information provided by the school nurse and speech therapist.

Protocol III: assessment by teacher. The third procedure placed the task of appraisal and program planning solely with the classroom teacher. The teacher was given access to test materials and inservice training in test administration and interpretation. Much of the success of this limited approach to pupil appraisal was dependent upon the teacher's knowledge of classroom organization, management of classroom time, and creative planning.

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Region IV, Education Service Center
202 North Loop West
Houston, Texas 77018

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T. S. Hancock, Executive Director, Region IV
Ralph Tator, Ed.D., Project Director

In all three protocols, the classroom teacher was an integral part of the appraisal process. This was felt to be absolutely necessary, for all the time and effort expended on pupil appraisal services would be of little value unless the instructional implications were successfully communicated to the child's teacher.

Problem

This study was concerned with an investigation of the classroom teacher's evaluation of six Language Center appraisal objectives and the variation of objective ratings among the three appraisal protocols. The six objectives were:

1. To provide the teacher with new information concerning a particular pupil's language disability.
2. To provide the teacher with greater insight into the language-disabled pupil's unique pattern of learning.
3. To provide the teacher with new ideas for adapting the teaching strategy to better fit the pupil's own pattern of learning.
4. To provide the teacher with instructional material and teaching recommendations that were both appropriate to the pupil's learning pattern and consistent with the demands of classroom teaching.
5. To provide the teacher with useful knowledge about the detection and remediation of specific language disabilities that could be generalized to other pupils in the classroom.
6. To convey appraisal information (however communicated) in a manner that was understood by the teacher.

Hypotheses

The six appraisal objectives applied to all classroom teachers participating in the Language Center project. How the objectives were approached and the extent to which they were achieved varied according to the teacher's particular appraisal protocol assignment. The following research propositions were formulated in terms of the *null* hypothesis. It was hypothesized that:

1. There is no difference between proportions of classroom teacher agreement and disagreement responses for all six objectives.
2. There is no difference in proportions of agreement responses among the six objectives.
3. There is no difference in proportions of agreement responses among appraisal protocols for each of the six objectives.

Subjects

Eighty classroom teachers of kindergarten, third, and sixth grade pupils were asked to indicate the degree to which they felt the appraisal objectives had been satisfied. Seventy-five teachers completed the rating scale. Of these, 43 were assigned to instructional programs including resource teachers and 32 were assigned to programs without resource teachers.

Instrument

Teachers were asked to indicate their rating of each objective by marking one of five boxes:

Not applicable or *don't know.* The statement does not apply to you, or you simply are not able to give a knowledgeable response.
Strongly agree. You strongly agree with the statement.
Agree. You agree more than you disagree with the statement.
Disagree. You disagree more than you agree with the statement.
Strongly disagree. You strongly disagree with the statement.

Procedure

Delivery and return of all questionnaires was made through the school principals. The questionnaires were disseminated in April and collected in May. Questionnaires were coded as to instructional program and appraisal protocol, yet respondent anonymity was preserved.

Statistical Analyses

Objective ratings were tallied, converted into proportions of agreement and disagreement, and sorted according to instructional program and appraisal protocol. Not Applicable ratings were excluded from proportion computations. Differences between Strongly Agree and Agree ratings and between Strongly Disagree and Disagree ratings were collapsed into a dichotomous measure of either Agree or Disagree. The assumption of independence was made for evaluating differences between objective rating proportions. Differences between proportions were evaluated by means of the table of t with N-2 degrees of freedom.

Results and Discussion

The null hypothesis of no difference between proportion of classroom teacher agreement and disagreement was rejected with every appraisal objective. More than three-fourths of the teachers reported that all six objectives had been achieved during the first project year. A list of agreement rating frequencies and proportions for each appraisal objective may be found in Table 1.

TABLE 1

Frequency and Proportion of Agreement with Appraisal Objectives by Classroom Teachers

Objectives	N	f	(P)*
1	68	57	(.84)
2	70	59	(.84)
3	72	66	(.92)
4	72	63	(.86)
5	69	53	(.77)
6	71	59	(.83)

* The proportion of agreement ratings was significant at the .01 level with all six appraisal objectives.

The null hypothesis of no difference in proportion of agreement responses among the six objectives was rejected. Objective 3, which was concerned with providing the teacher with new ideas for modifying the teaching strategy to better fit the pupil's learning

needs, received the highest proportion of agreement responses. Objective 5, which focused upon the generalization of acquired knowledge to other pupils in the classroom, received the lowest rating. The difference in agreement ratings between these two objectives was found to be significant at the .05 level of confidence. Table 2 illustrates every possible pair-wise difference in objective proportions.

TABLE 2

Appraisal Objective Pair-Wise Differences Among Proportions of Agreement Ratings by Classroom Teachers
(N ranges from 68 to 72 for all objectives)

		Objectives				
		2	3	4	5	6
	Proportion	.84	.92	.86	.77	.83
Objective	Proportion					
1	.84	.00	.08	.02	-.07	-.01
2	.84		.08	.02	-.07	-.01
3	.92			.06	-.15*	-.09
4	.86				-.09	-.03
5	.77					.06

*Significant at the .05 level.

Differences in objective ratings among the three appraisal protocols were examined only with the 32 teachers who were not assigned a resource teacher. The assistance of an additional special services person tended to offset the fundamental differences among appraisal procedures. Although the reduction in study sample size prevented a statistical evaluation of the variation in objective ratings, discernable trends were detected among the different appraisal protocols. Agreement frequencies and proportions have been reported for each objective and protocol in Table 3.

An interpretation of protocol III ratings should be guarded. Since little assistance was provided to these teachers, the ratings of appraisal objectives were influenced by the teacher's judgement of her own skills as a diagnostician and educational planner. This is particularly true with Objectives 3, 4, and 5. Such self-ratings are often spuriously high.

TABLE 3

Frequency Count of Agreement with Appraisal Objective by Teachers in Different Appraisal Protocols

Appraisal Objectives	Protocols I (N=9) f(P)	II (N=12) f(P)	III (N=8) f(P)
1	9 (1.00)	10 (0.83)	4 (0.50)
2	9 (1.00)	11 (0.93)	5 (0.63)
3	6 (0.67)	12 (1.00)	9 (1.00)*
4	7 (0.78)	10 (0.83)	9 (1.00)*
5	8 (0.89)	8 (0.67)	5 (0.71)**
6	5 (0.56)	10 (0.83)	5 (0.71)**

* N=9
**N=7

With this precaution it can be said that Objectives 1, 2, 5, and 6 were more frequently satisfied in protocols I and II than in protocol III. This finding conforms to expectation, since protocol I brings to the teacher the combined expertise of many professional disciplines and protocol II provides the teacher with continuous exposure to a highly trained educational diagnostician.

On the other hand, Objectives 3 and 4 were rated as most effective in the situation depicted by protocol II. These objectives focused upon relevant instructional methods and materials. It was here that the technical skills of the educational diagnostician became most useful to the classroom teacher.

Summary and Conclusion

During the first year of the project, the primary goal of the Language Center appraisal component was to provide teachers with a better understanding of the specific disabilities of language-handicapped children, and to successfully communicate to the teacher appropriate and effective strategies of instructional intervention. To achieve this goal, The Language Center provided participating teachers with an array of information resources. Included were initial screening results, test and instructional materials, appraisal reports, teacher conferences, and in-service training. How teachers received the appraisal information varied according to their assignment to one of the three appraisal protocols. Each procedure differed in the amount and quality of appraisal assistance provided. The purpose of this study was to investigate the classroom teacher's evaluation of six Language Center appraisal objectives and the variations of objective ratings among the three appraisal protocols.

Most teachers reported that all appraisal objectives had been achieved during the project year. The multidisciplinary team approach to pupil appraisal was found to be most successful in communicating new information about specific language disabilities that could be generalized to other pupils in the classroom and in generating greater insight into particular learning patterns. The educational diagnostician approach seemed most effective in the area of educational planning and development of appropriate teaching strategies.

In the opinion of the classroom teacher, the services of an educational diagnostician were a necessary prerequisite to planning an effective instructional program for language-handicapped pupils. These services were further enhanced when backed up by the knowledge and skills of professionally trained persons in the fields of psychology, speech, and medicine.

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DEMONSTRATION CENTER FOR LANGUAGE-HANDICAPPED CHILDREN

A STUDY OF THE RELATIONSHIP BETWEEN THE *GATES-MacGINITIE READING TEST READINESS SKILLS* AND THE *MEETING STREET SCHOOL SCREENING TEST*

by James R. Hale, Ph.D. and ***Rebecca Mabry, M. Ed.***

An early concern of The Language Center was the selection of a screening measure which could identify with moderate or better validity those children who would require special instructional assistance in order to develop adequate reading readiness skills by the end of the kindergarten year. One measure which seemed to show particular promise was the *Meeting Street School Screening Test* (Hainsworth and Siqueland, 1969). Since the *Gates-MacGinitie Reading Test: Readiness Skills* (Gates and MacGinitie, 1968) provided one of the criterion measures for the Language Center kindergarten program, it seemed appropriate to employ this same measure for validating the *Meeting Street School Screening Test* (MSSST). The purpose of this study was to determine the concurrent validity of the MSSST as measured by the *Gates-MacGinitie Reading Test: Readiness Skills* (GMRTRS).

Background

Both the MSSST and GMRTRS were standardized with kindergarten boys and girls. The MSSST was developed through an information processing model and contains three subtests: Motor Patterning, Visual-Perceptual-Motor, and Language. Included in the MSSST are measures of visual processing, visual organization, language processing, and language integration. A total raw score of thirty-nine or less is indicative of poor information processing skills.

The GMRTRS consists of eight reading readiness skill subtests and yields a weighted total reading readiness score. The eight subtests are Listening Comprehension, Auditory Discrimination, Visual Discrimination, Following Directions, Letter Recognition, Visual-Motor Coordination, Auditory Blending, and Word Recognition.

Validity coefficients from .53 to .82 were reported in the MSSST manual with other measures of learning behaviors. A review of the available literature failed to reveal any prior investigations of the relationship between the MSSST and other measures of reading readiness, or between the GMRTRS and measures of specific language/learning processes.

Hypotheses

A necessary prerequisite to reading is the ability to process and integrate both incoming and outgoing information. Since both tests purport to measure these skills, it is reasonable to assume that a positive relationship exists between the two. This study was concerned with the extent of that relationship. For statistical purposes, the hypotheses were stated in null form.

1. It was hypothesized that the correlation between total MSSST and GMRTRS scores would not exceed .60.
2. It was further hypothesized that the Language subscale of the MSSST would not correlate higher with the GMRTRS than would the other subscales of the MSSST (Motor Patterning or Visual-Perceptual-Motor).

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Region IV, Education Service Center
202 North Loop West
Houston, Texas 77018

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T. S. Hancock, Executive Director, Region IV
Ralph Tator, Ed.D., Project Director

Subjects

Sixteen girls and fourteen boys were randomly selected from two kindergarten classes in one of the elementary schools participating in the Language Center project. These children came from white, middle class families. Chronological ages ranged from five years and two months to six years and one month.

Procedures

Both tests were administered to the thirty children during the first half of the first semester. The MSSST was administered to each child individually and the GMRTRS to groups of six or eight children at a time. The administration of the MSSST was completed in one testing session. Two sessions were required for administering the GMRTRS.

Results

Statistical procedures consisted of Pearson product-moment correlations and one-tailed *t*-tests of significance. MSSST total raw scores correlated .62 ($p<.001$) with GMRTRS total readiness skills scores. MSSST subscale correlations with GMRTRS total readiness skills scores were .63 ($p<.001$) for Language, .48 ($p<.01$) for Visual-Perceptual-Motor, and .40 ($p<.01$) for Motor Patterning. Between subtest and total test correlations were not computed for the MSSST.

Conclusions

The first null hypothesis was rejected. Total and subtest MSSST scores were found to be positively related to reading readiness skills as measured by the GMRTRS.

Statistically, the second null hypothesis could not be rejected since the standard error of differences between coefficients of correlation was not computed. The MSSST subtest intercorrelation coefficients required for the formula were not available at the time of analysis. However, in view of the sample size and significance level of MSSST subtest correlations with the GMRTRS, it seemed reasonable to assume that the difference between the higher correlation of Language subtest scores with the GMRTRS and those obtained with Motor Patterning or Visual-Perceptual-Motor subtest scores was real.

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DEMONSTRATION CENTER FOR LANGUAGE-HANDICAPPED CHILDREN

ANALYSIS OF CHARACTERISTICS OF LANGUAGE-HANDICAPPED CHILDREN

by Max D. Miller, Ed.D.

Children with language handicaps often have communication difficulties which interfere with learning processes. These children may be experiencing a basic dysfunction involving receptive, expressive, or integrative language function in both spoken and written form. One of the tasks of special programs should be to further identify relevant characteristics of these children. The purpose of this study was to describe patterns of strengths and weaknesses of children with language function handicaps.

Method

From a population of suspected language-handicapped children, third and sixth grade students were selected to participate in the study. Teachers of these children were asked to complete the Pupil Rating Scale (PRS) and the Language Center Supplement (LCS). The PRS is a rating instrument which rates each child on five areas of behavior – auditory comprehension, spoken language, orientation, motor coordination, and personal-social behavior. The LCS is a rating instrument which rates each child on reading language and written language. The Pupil Rating Scale and the Language Center Supplement are used to aid in the identification of language-handicapped children.

From a population of diagnosed language-handicapped children, 90 were randomly selected from the third grade and 105 from the sixth grade. Intercorrelations of measures of characteristics were subjected to image analysis.

Results

Image analysis showed that two factors could account for 90 percent of the factor variance in the third grade sample. The first was defined in terms of language function as auditory reception-written expression. This factor was negatively weighted by motor coordination. The second factor was defined by high positive loadings on orientation and high negative loadings on auditory reception and reading language. These results are presented in Table 1.

TABLE 1

Analysis of Characteristics of
Third Grade Language-Handicapped Children

Variable	Factor I	Factor II
Auditory Comprehension	.88	-.40
Spoken Language	—*	—
Orientation	—	1.08
Motor Coordination	-.55	—
Personal - Social	—	—
Reading Language	—	-.55
Written Language	.40	.39

* Zero Loadings Omitted

Among the sixth grade sample three factors accounted for 90 percent of the factor variance. The first factor was positively weighted by auditory reception and to a lesser extent by orientation. Negative weights from the personal-social domain and written language were associated with the first factor. The second factor was defined by a positive weight from orientation and a negative weight from spoken expression. A positive weight on auditory reception and a negative weight on spoken expression defined the third factor. These results are presented in Table 2.

THE LANGUAGE CENTER
Region IV, Education Service Center
202 North Loop West
Houston, Texas 77018

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1973

T. S. Hancock, Executive Director, Region IV
Ralph Tator, Ed.D., Project Director

TABLE 2

Analysis of Characteristics of
Sixth Grade Language-Handicapped Children

Variable	Factor I	Factor II	Factor III
Auditory Comprehension	.87	---	.85
Spoken Language	---*	-.47	-1.04
Orientation	.38	.92	---
Motor Coordination	---	---	---
Personal-Social	-.61	---	---
Reading Language	---	---	-.38
Written Language	-.56	---	-.39

*Zero Loading Omitted

Interpretation

The first factor for the third grade is indicative of children with less than adequate motor coordination, suggesting the classic description of the hyperactive, language-handicapped child. However, teachers perceive these children as having well defined auditory reception and written expression abilities. The source of disability appears to be in the overt behaviors of those children suspected of having a language disorder. In contrast, the second factor seems to indicate a receptive dysfunction both in auditory and visual modalities. Teachers perceive these children, despite their disabilities, as acutely aware of their surroundings and competently expressive in writing ability.

For the sixth grade, three dimensions were identified. The first was found to be indicative of language-handicapped children whose personal-social skills have not been well developed. Their greatest abilities are in the areas of auditory reception and orientation; their greatest weakness, in the area of written expression. They could properly be described as being capable of contemplation, yet somewhat hyperactive. The second dimension shows alert youngsters, well oriented to their environment, but unable to express themselves verbally. Their handicap is not one of orientation but rather communication. The third dimension for the sixth grade sample describes children whose auditory reception skills are well developed but who have difficulty expressing themselves using spoken language.

Discussion

The various patterns and dimensions describe a perplexing problem, namely, language-handicapped children cannot be described in simple terms. Their handicaps are complex and varied; their abilities are well defined and observable. In working with language-handicapped children it should be remembered that they are individuals who possess unique characteristics. Their language impairments seem to be of different natures at different grade levels. A specific language handicap may be related to an auditory or visual reception dysfunction or may be related to a lack of motor coordination. Typically the language-handicapped child is alert, aware of his surroundings, and oriented to his environment.

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DEMONSTRATION CENTER FOR LANGUAGE-HANDICAPPED CHILDREN

INVESTIGATION OF ALTERNATIVE ROLES FOR THE PUBLIC SCHOOL SPEECH CLINICIAN

by James R. Hale, Ph.D. and Nancy Shoup, M.A.

In seeking to develop approaches for helping children who exhibit difficulties in learning to read, write, spell, and speak within a teaching program that is effective for most children, the 60th Texas Legislature authorized the establishment of the Demonstration Center for Language-Handicapped Children. The definition for language handicap adopted by The Language Center states that:

> Children with developmental disabilities are those who consistently show a significant discrepancy between their potential for performing and their actual performance in one or more basic language areas – auditory, spoken, reading, and written language – and who have not developed effective compensatory skills. Excluded from this definition are children whose language skill deficits are primarily attributed to mental retardation, bilingualism, emotional disturbance, sensory deficit, or physical impairment (The Language Center, 1973).

To compare the effectiveness of various organizational frameworks within which children identified as possessing language handicaps could be taught was a primary goal of the research design of The Language Center. As an adjunct to this portion of research a short-termed pilot study was conducted for the purpose of investigating ways in which the public school speech clinician might better serve as part of the instructional team for children with language handicaps. Because of the basic nature of auditory language and its relationship to the written and read verbal system, the premise is offered that a program of educational remediation for children with language disorders such as the Language Center program should contain on its staff, at the ground level, clinical teachers trained in language pathology.

BACKGROUND FOR THE STUDY

Some school administrators and classroom teachers suggest that training for public school speech clinicians include experience in classroom teaching, on the assumption that speech clinicians lack sufficient knowledge of the "normal" child and of curriculum expectations of "normal" school children. They suggest training and experience in teaching reading, reflecting the opinion that since reading is the primary skill to be learned in the elementary school, every member of the instructional staff should be fully acquainted with that task. Furthermore, they hold that one cannot adequately analyze the failure of children to read unless one has had the experience of teaching "normal" children to read. Some administrators also suggest that speech clinicians need experience in classroom management, on the basis that many of the suggestions made by clinicians to classroom teachers, no matter how beneficial for the child, often are not utilized because of limitations placed on the teacher by the nature of the group situation.

From these suggestions the question is raised: Is it necessary to achieve competence as both teacher and clinician to obtain employment in public school settings? The American Speech and Hearing Association has issued the following statement in regard to this question:

> The work of the speech and hearing specialist is in the nature of a diagnostic and therapeutic service which is related primarily to the communication handicaps of an individual. The educational preparation of these specialists must equip them to carry out this clinical service program which does not involve the teaching of curricular materials. It should be recognized that both the preparation of a competent teacher and the preparation of a speech and hearing specialist are unique and specialized. The speech and hearing clinician cannot become competent in both fields within the usual degree program (ASHA, 1962).

Today, more than ten years later, this dilemma continues to exist. As a preliminary investigation of the problem, this study was designed to explore two roles whereby individuals trained in the speciality of Speech Pathology and Audiology could function in the public school setting as integral

THE LANGUAGE CENTER
Region IV, Education Service Center
202 North Loop West
Houston, Texas 77018

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1973

T. S. Hancock, Executive Director, Region IV
Ralph Teter, Ed.D., Project Director

members of a team serving needs of children with language handicaps. The first, entitled Speech and Hearing Clinician, would require four years of college training with a bachelor's degree in Speech Pathology and Audiology. The second, entitled Communication Disorders Specialist, would require five years of training with a master's degree in Speech Pathology and Audiology. There are implications for courses to be included during the fifth year of training which may or may not be credited toward certification with the American Speech and Hearing Association, suggesting that various routes of training within the profession be available at the graduate level depending on locale of employment sought following graduation.

The organizational framework established by The Language Center for this pilot study was one in which the following resource personnel and services were available to assist the classroom teacher:

A resource teacher who assisted the classroom teacher through the provision of special tutorial and small group instructional activities.

An educational diagnostician who assisted both the classroom teacher and resource room teacher in establishing instructional goals and performance objectives.

School district special services personnel who offered the classroom teacher the combined planning skills of the school nurse, school counselor, speech clinician and others.

An aide was provided for each classroom and for each resource teacher.

STATEMENT OF THE PROBLEM

Four formally stated questions regarding the effectiveness of the program were investigated.

1. Can the children make gains in skills needed through training given in this project?
2. Can a person trained in the speciality of Speech Pathology and Audiology effectively achieve the appraisal objectives formulated for educational diagnosticians by The Language Center?
3. Does achievement of Language Center appraisal objectives by specialists in Speech Pathology and Audiology vary in extent to which each is met?
4. Does achievement of Language Center appraisal objectives by specialists in Speech Pathology and Audiology vary in extent of fulfillment among five different language areas? (The five language areas defined were: auditory language spoken language, visual perception, visual-motor coordination, and social perception.)

A research method and appropriate hypotheses were developed to investigate these questions.

HYPOTHESES

Two formally stated null hypotheses were developed for the third and fourth questions listed above.

Hypothesis 1:

In achievement of appraisal objectives of The Language Center by specialists in Speech Pathology and Audiology, there are no significant differences in extent to which each objective is met.

Hypothesis 2:

In terms of achievement of appraisal objectives of The Language Center by specialists in Speech Pathology and Audiology there are no significant differences in extent to which the objectives among the five different language areas are met.

METHOD

Subjects

A total of eight children from three kindergarten classes located in two elementary schools, all of whom were predicted at the beginning of their kindergarten year to be poor academic risks when in first grade, were given supplemental instruction prescribed by a Communication Disorders Specialist. This short-termed pilot program lasted one month. The educational diagnostician and resource teacher selected these children for the supplemental program because they continued to evidence difficulty with certain learning tasks despite special help from the resource teacher and educational diagnostician.

Procedure

Following a limited appraisal using formal and informal assessment procedures, two or three pupil performance objectives were constructed and agreed upon by the teaching personnel involved. Suggestions for formal and informal procedures by which the objectives could be met were given to the instructional personnel in three ways: in written form, by demonstration, and by subsequent oral explanation.

Each child received from twenty minutes to three hours (total time) of formal instruction toward the performance objectives as well as an unknown amount of informal instruction. Though all educational programming was done by the Communication Disorders Specialist, actual instruction was given by either the classroom teacher, a resource teacher, a speech clinician, an aide, and/or through a monitored audiotape.

A log of time periods spent in various portions of the program was kept. Totals indicated that approximately one quarter of the time was spent on assessment, one quarter in written programming, one quarter in demonstration and supervision of instructional procedures, and one quarter in communication of information on all phases of the program to instructional personnel.

Instrument

Seven appraisal objectives, six formulated by The Language Center and one formulated by the Communication Disorders Specialist, were evaluated. Participants indicated the extent to which an objective was met by making a vertical mark on a horizontal line 13 centimeters long. There was one line for each objective. The more inadequately a rater thought an objective had been met, the farther to the left she marked the horizontal line representing that objective. To the degree she thought an objective had been met, she marked the right side of the line.

The seven appraisal objectives were:

1. Provided the teacher with new information concerning a particular pupil's language handicap.
2. Provided the teacher with greater insight into the language-handicapped pupil's particular pattern of learning.

3. Provided the teacher with new ideas for adapting teaching strategies to better fit the pupil's own pattern of learning.
4. Provided the teacher with instructional material and teaching recommendations that were both appropriate to the pupil's learning needs and consistent with the demands of classroom teaching.
5. Provided the teacher with useful knowledge about the detection and remediation of specific language handicaps that could be generalized to other pupils in the classroom.
6. Conveyed appraisal and remediation information (however communicated) in a manner that was understood by the teacher.
7. Demonstrated to the teacher new teaching techniques for the language-handicapped child.

The persons rating the degree to which the objectives were met included three classroom teachers, one educational diagnostician, two resource teachers, two speech clinicians and two aides.

Statistical Analyses

An evaluation of the effectiveness of the pilot program was made through: (1) computation of the children's percentage achievement of performance objectives, and (2) analysis of data obtained by asking the instructional personnel who participated in the program to rate the degree to which seven appraisal objectives were fulfilled.

To answer the question, "Can a person trained in the specialty of Speech Pathology and Audiology effectively achieve the Language Center's appraisal objectives for educational diagnosticians?", a mean rating of or beyond 6.5, the midpoint of the line, was deemed effective fulfillment of the objective. To determine differences in extent to which each objective was met, a 9x7 factorial analysis of variance design was chosen with participants as one dimension and objectives as the second dimension. To determine differences in the extent to which objectives were met in various language areas, a 9x5 factorial analysis of variance design was used with the participants as one dimension and the five language areas as the second dimension.

RESULTS

Of sixteen total performance objectives written for the eight children, 11 or 70% were satisfactorily completed by the end of the training period. All appraisal objectives were above the median point of 6.5. The highest rating was obtained for objective six, skill in communication of information. The rank order of the seven appraisal objectives in terms of achievement is given in Table I.

TABLE I
Rank Order
of
Appraisal Objectives

Appraisal Objectives	Rank Order	Mean Rating	Percentage of Fulfillment
Objective No. 6	1	10.5	81%
Objective No. 3	2	9.2	71%
Objective No. 4	3	8.8	68%
Objective No. 7	4	8.0	62%
Objective No. 1	5	8.0	62%
Objective No. 2	6	7.5	58%
Objective No. 5	7	7.3	56%

No significant differences were found in the degree to which appraisal objectives of The Language Center were met. Nor were there significant differences in the degree to which objectives were met among the five language areas. Neither null Hypothesis 1 nor Hypothesis 2 was rejected at the .05 level of significance. Table II and Table III give a summary of results.

TABLE II
Analysis of Variance

Differences Among Objective Fulfillment

Source	df	SS	MS	F
Total (N-1)	62	798.67	—	
Between (K-1)	6	67.63	11.27	.86
Within (N-1) - (K-1)	56	731.04	13.05	

TABLE III
Analysis of Variance

Differences Among Language Areas

Source	df	SS	MS	F
Total (N-1)	44	29525.95	—	
Between (K-1)	4	3258.96	814.74	1.24
Within (N-1) - (K-1)	40	26266.99	656.67	

Although differences were not significant among the areas, a rank order of areas showing the degree to which objectives were met in each language area is given in Table IV.

TABLE IV
Rank Order
of
Language Areas

Language Areas	Rank Order	Mean Rating	Percentage of Fulfillment
Spoken Language	1	8.9	68%
Auditory Language	2	8.5	65%
Social Perception	3	6.7	52%
Visual Perception	4	6.5	50%
Visual-motor Coordination	5	5.8	45%

DISCUSSION

The pilot study was able to demonstrate that specialists in Speech Pathology and Audiology could effectively achieve appraisal objectives constructed for educational diagnosticians employed in the Language Center project. Apparently, specialists in Speech Pathology and Audiology possess competencies similar to those required for educational diagnosticians. This lends support to the current Texas Education Agency position that certification and employment be granted according to competency demonstration rather than as a result of having followed a particular course of training in college or of having obtained a particular degree or title.

Although the small sample size prevented statistical significance among differences in achievement of appraisal objectives, the rank order suggested that communication of information to all personnel was held to be important and effective. This conclusion was further supported by the finding that a high percentage of the educational plans

prepared by the Communication Disorders Specialist were successfully completed by the participating classroom and resource room teachers. Through informal questioning, it was determined that most of the teachers felt that the most effective manner of communication included a combination of demonstration and writing of procedures.

Though no statistical differences were found in the degree to which objectives were fulfilled among the five language areas, rank ordering showed effectiveness in the spoken and auditory language areas to be higher than in other areas. As suspected, an area of expertise was revealed in the specialized field of training. Moreover, the only language area in which the mean rating for fulfillment of appraisal objectives fell below 6.5 was that of visual-motor coordination, an area in which speech pathologists and audiologists receive less training.

Three basic questions were answered in this study:

1. Can Communication Disorders Specialists achieve appraisal objectives written for educational diagnosticians? Yes, in spite of reservations held by administrators, classroom teachers and others about the competencies of Speech Pathologists and Audiologists.

2. Does implementation of the role of Communication Disorders Specialist by a person trained in Speech Pathology and Audiology reveal an area of expertise in language skill assessment and educational planning? As suspected, strength in spoken and auditory languge areas was displayed.

3. Can Communication Disorders Specialists be effective communicators of information related to their specialized area of training? Of all appraisal objectives, the ability to communicate information was judged to be most effective in this study, despite the prevalent opinion that persons trained in Speech Pathology and Audiology are highly "separatist" in their clinical approach to the child.

IMPLICATIONS

Two implications for change in existing policy can be made as a result of this study. With respect to the present role of the speech and hearing clinician:

1. Texas Education Agency guidelines should provide greater flexibility in the interpretation of the activities conducted during "therapy." Additional time for planning and communication as defined in this study is particularly needed.

2. Specific time periods should be allotted to appraisal and instructional personnel for exchanging information.

In view of the results of this study, perhaps educational administrators should reexamine the currently limited role of the speech and hearing therapist in the public schools.

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RESEARCH MONOGRAPHS
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DEMONSTRATION CENTER FOR LANGUAGE-HANDICAPPED CHILDREN

UTILIZATION OF INSTRUCTIONAL MEDIA, TEACHING TECHNIQUES, AND STUDENT-ORIENTED ACTIVITIES BY TEACHERS IN THE LANGUAGE CENTER PROJECT

by William A. Young, Jr., Ed.D. and Ralph O. Teter, Ed.D.

A major task for teachers in the implementation of any new instructional program is the wise selection of instructional media, the use of proper teaching techniques, and the careful selection of student-oriented activities.

This study was directed toward determining the use of these elements in the Language Center project. Differences in usage which occurred in various aspects of the project comprised a further analysis.

A primary question was to ascertain which instructional media, teaching techniques, and student-oriented activities were most frequently utilized by teachers of language-handicapped children. A secondary question was to determine any differences in frequency of usage among the following contrasts:

.. Across grade levels
.. Classrooms with an aide and classrooms without an aide
.. Classroom and resource room

Method

During the last twenty-four weeks of the 1971-1972 school year a specially designed questionnaire, the Instructional Information Feedback System Form, was completed biweekly by all teachers in The Language Center. The last four biweekly reporting periods were used in this study.

Frequency of usage levels were defined as follows:

.. Extensively	4-5 times per week
.. Frequently	3-4 times per week
.. Rarely	1-2 times per week
.. None	0 times per week
.. Not Available	Item not available or technique not applicable

Only the categories of "extensively" and "frequently" were used in this analysis. A Spearman rank order correlation was utilized to gauge relationships among the various aspects of the project, i.e., Grade Levels, Aide-No Aide, and Classroom and Resource Room.

Results by Grade Level

Instructional media. Five pieces of instructional media equipment which had not previously been available in all classrooms and resource rooms were made available to teachers in the Language Center project. These were:

.. Audio Tape (cassette)
.. Eight-Student Listening Station
.. Record Player
.. Overhead Projector
.. Filmstrip Projector

Results of their usage are indicated in Table 1.

TABLE 1
RANKING OF INSTRUCTIONAL MEDIA BY GRADE LEVEL
(Percent of "extensive" and "frequent" responses)

Instructional Media	Kindergarten Rank (%)	Third Grade Rank (%)	Sixth Grade Rank (%)
Audio-Tape (cassette)	1 (70%)	1 (80%)	1 (58%)
Record Player	2 (69)	2 (78)	5 (8)
Eight-Student Listening Station	3 (56)	3 (76)	2 (47)
Filmstrip Viewer	4 (50)	5 (55)	4 (14)
Overhead Projector	5 (11)	4 (65)	3 (30)

THE LANGUAGE CENTER
Region IV, Education Service Center
202 North Loop West
Houston, Texas 77018

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T. S. Hancock, Executive Director, Region IV
Ralph Teter, Ed.D., Project Director

The Eight-Student Listening Stations used with the Audio-Tape (cassette) and the Record Player were ranked high in usage by teachers at all three grade levels. Teachers in kindergarten and third grade indicated that they relied heavily on the record player for classroom activities.

In the sixth grade, it should be noted that only one of the five types of media, the Audio-Tape (cassette), was used "extensively" or "frequently" 50 percent or more of the time. By contrast, kindergarten and third grade teachers used all of their Instructional Media 50 percent or more of the time, with one exception: kindergarten teachers made less use of the Overhead Projector.

Teaching Techniques. Of the many techniques used in teaching pupils in The Language Center, four were ranked highest by all three grade levels. These related to interaction in terms of Praise, Student Talk, Questioning, and Acceptance. Results are shown in Table 2.

TABLE 2
RANKING OF TEACHING TECHNIQUES BY GRADE LEVEL
(Percent of "extensive" and "frequent" responses)

Teaching Techniques	Kindergarten Rank (%)	Third Grade Rank (%)	Sixth Grade Rank (%)
Interaction: Praise	1 (97%)	1 (97%)	2 (98%)
Interaction: Student Talk	2 (93)	4 (93)	4 (83)
Interaction: Questioning	2 (95)	3 (94)	3 (92)
Interaction: Acceptance	4 (94)	2 (96)	1 (100)
Behavioral Objectives in Lesson Planning	5 (87)	12 (57)	9 (47)
Self Evaluation: Teacher	6 (80)	5 (87)	5 (79)
Language Experience Approach	7 (79)	12 (57)	6 (54)
Bulletin Board Display	8 (76)	9 (71)	12 (43)
Creative Teaching Techniques	9 (72)	7 (80)	7 (48)
Behavior Modification	10 (69)	8 (76)	7 (48)
Learning Center Concept	11 (66)	10 (68)	9 (47)
Discovery Method	11 (66)	11 (63)	11 (44)
Motivational Techniques	13 (58)	6 (85)	13 (42)

All Teaching Techniques were used "extensively" or "frequently" by kindergarten and third grade teachers more than 56 percent of the time during the eight-week survey period. Seven of the twelve Teaching Techniques used by sixth grade teachers were used less than 50 percent, with the least used being Motivational Techniques at 42 percent. Third grade teachers ranked Behavioral Objectives in Lesson Planning and the Language Experience Approach much lower than did kindergarten and sixth grade teachers. Third grade teachers reversed this pattern.

The correlation between kindergarten and third grade teachers' ranking of Teaching Techniques was at the .05 level of significance. The ranking correlation between kindergarten and sixth grade teachers, as well as third and sixth grade teachers, was at the .01 level of significance.

Student-Oriented Activities. A number of activities designed for use by students were surveyed by the Instructional Information Feedback System. The three Student-Oriented Activities ranking consistently highest were Listening Activities, Discussions, and Self-Concept Development (attitude). These activities were used 50 percent or more of the time by teachers at all three grade levels (see Table 3).

TABLE 3
RANKING OF STUDENT-ORIENTED ACTIVITIES BY GRADE LEVEL
(Percent of "extensive" and "frequent" responses)

Student-Oriented Activities	Kindergarten Rank (%)	Third Grade Rank (%)	Sixth Grade Rank (%)
Listening Activities	1 (92%)	1 (87%)	2 (73%)
Discussions	2 (82)	2 (81)	1 (83)
Self-Concept Development (attitude)	3 (76)	3 (76)	4 (50)
Role Playing	4 (50)	8 (28)	9 (8)
Self Evaluation (student)	5 (48)	5 (64)	5 (42)
Individual Pupil Assignment	6 (42)	4 (70)	2 (73)
Language Experience Charts	7 (32)	7 (35)	8 (16)
Choral Speaking	8 (31)	11 (21)	12 (0)
Creative Writing	9 (9)	6 (46)	6 (21)
Field Trips	10 (7)	12 (3)	11 (3)
Writing Reports	11 (0)	9 (27)	7 (19)
Oral Reports	11 (0)	10 (25)	10 (7)

Role Playing was ranked high as a Student-Oriented Activity by kindergarten teachers, but much lower by third and sixth grade teachers. Individualized Pupil Assignment was ranked second in the sixth grade and sixth in kindergarten classrooms.

The correlation among the rankings of kindergarten, third, and sixth grade teachers of Student-Oriented Activities was significant at the .01 level.

Results by Aide-No Aide

Instructional media. Teachers in The Language Center indicated that the presence of a teacher aide did not appreciably change the rank order of the five types of instructional media (see Table 4). The Audio-Tape (cassette), Eight-Student Listening Station, and the Record Player ranked first, second, and third in classrooms with an aide assigned, as well as in classrooms with no aide.

TABLE 4
RANKING OF INSTRUCTIONAL MEDIA BY AIDE-NO AIDE CLASSROOMS
(Percent of "extensive" and "frequent" responses)

Instructional Media	Aide Rank (%)	No Aide Rank (%)
Audio Tape (cassette)	1 (66%)	1 (76%)
Eight-Student Listening Station	2 (59)	2 (71)
Record Player	3 (52)	3 (56)
Overhead Projector	5 (43)	4 (40)
Filmstrip Viewer	4 (46)	5 (39)

Teaching Techniques. All Teaching Techniques being studied were used with a frequency of more than 50 percent (see Table 5). Teachers in The Language Center indicated that the addition of a teacher aide did not change the rank order of the first five Teaching Techniques. A large difference in rank order was shown in ranking Behavior Modification sixth with an aide and twelfth without an aide. The use of Behavioral Objectives in Lesson Planning ranked seventh in classrooms without an aide but ranked thirteenth when an aide was available. The Learning Center Concept was used more often by teachers with an aide available than by teachers without an aide. A correlation at the .05 level was noted.

TABLE 5
RANKING OF TEACHING TECHNIQUES BY AIDE-NO AIDE
(Percent of "extensive" and "frequent" responses)

Teaching Techniques	Aide Rank (%)	No Aide Rank (%)
Interaction: Praise	1 (94%)	1 (100%)
Interaction: Acceptance	1 (94)	2 (99)
Interaction: Questioning	1 (94)	3 (93)
Interaction: Student Talk	4 (92)	4 (89)
Self Evaluation: Teacher	5 (80)	5 (87)
Creative Teaching Techniques	9 (66)	6 (70)
Behavioral Objectives in Lesson Planning	13 (52)	7 (66)
Motivational Techniques	7 (64)	8 (63)
Bulletin Board Display	10 (65)	9 (62)
Language Experience Approach	11 (61)	10 (60)
Discovery Method	12 (59)	11 (58)
Learning Center Concept	8 (68)	12 (56)
Behavior Modification	6 (75)	12 (56)

Student-Oriented Activities. The rank orders of Student-Oriented Activities were similar regardless of aide availability. The correlation between Aide-No Aide ranking of Student-Oriented Activities was at the .01 level of significance (see Table 6).

TABLE 6
RANKING OF STUDENT-ORIENTED ACTIVITIES BY AIDE-NO AIDE
(Percent of "extensive" and "frequent" responses)

Student-Oriented Activities	Aide Rank (%)	No Aide Rank (%)
Listening Activities	2 (80%)	1 (79%)
Discussions	1 (84)	1 (79)
Self-Concept Development (attitude)	3 (73)	3 (67)
Individualized Pupil Assignment	4 (64)	4 (65)
Self Evaluation (student)	5 (60)	5 (56)
Language Experience Charts	7 (25)	6 (33)
Role Playing	7 (25)	6 (33)
Creative Writing	6 (33)	8 (27)
Writing Reports	11 (10)	9 (25)
Choral Speaking	10 (15)	10 (20)
Oral Reports	9 (21)	11 (9)
Field Trips	12 (3)	12 (4)

Results by Organizational Arrangement: Classroom and Resource Room

Instructional media. The rank orders of Instructional Media used by Classroom Teachers and Resource Teachers correlated at the .01 level (see Table 7). The Audio Tape (cassette), Eight-Student Listening Station, and Record Player ranked first, second, and third in frequency of use. All five basic types of Instructional Media were used "extensively" or "frequently" 50 percent of the time or more by Classroom Teachers, whereas only the Audio Tape (cassette) was used by Resource Room Teachers more than 50 percent of the time.

TABLE 7
RANKING OF INSTRUCTIONAL MEDIA BY INSTRUCTIONAL PROGRAMS
(Percent of "extensive" and "frequent" responses)

Instructional Media	Classroom	Resource Room
Audio Tape (cassette)	1 (76%)	1 (62%)
Eight-Student Listening Station	2 (72)	2 (44)
Record Player	3 (69)	3 (20)
Overhead Projector	4 (63)	5 (15)
Filmstrip Viewer	5 (50)	3 (20)

Teaching Techniques. Four Teaching Techniques were used more than 85 percent of the time by Classroom Teachers and Resource Room Teachers. These were the interaction Teaching Techniques of Acceptance, Questioning, Praise, and Student Talk (see Table 8).

The Learning Center Concept was stressed more by Resource Room Teachers than by Classroom Teachers yet was used more than 55 percent of the time by Classroom Teachers. Behavioral Objectives in Lesson Planning were ranked last by Classroom Teachers with Resource Room Teachers placing more emphasis on writing their lesson plans in behavioral terms. The correlation between Classroom and Resource Room Teachers' ranking of techniques was significant at the .05 level.

TABLE 8
RANKING OF TEACHING TECHNIQUES BY INSTRUCTIONAL PROGRAMS
(Percent of "extensive" and "frequent" responses)

Teaching Techniques	Classroom	Resource Room
Interaction: Acceptance	1 (98%)	2 (92%)
Interaction: Praise	2 (97)	1 (97)
Interaction: Questioning	3 (94)	2 (92)
Interaction: Student Talk	4 (92)	4 (85)
Self Evaluation (teacher)	5 (84)	6 (82)
Creative Teaching Techniques	6 (83)	7 (81)
Motivational Techniques	7 (80)	5 (83)
Bulletin Board Display	8 (79)	12 (40)
Discovery Method	9 (75)	13 (19)
Behavior Modification	10 (71)	10 (53)
Language Experience Approach	11 (66)	11 (47)
Learning Center Concept	12 (58)	8 (73)
Behavioral Objectives in Lesson Planning	13 (57)	9 (71)

Student-Oriented Activities. As indicated in Table 9, Resource Room Teachers stressed Individualized Pupil Assignments more than did Classroom Teachers. Resource Room Teachers were more able than Regular Teachers to participate in field trips. Role Playing was used more often in the Classroom than in the Resource Room. The correlation between the rankings of Student-Oriented Activities was at the .01 level of significance.

TABLE 9
RANKING OF STUDENT-ORIENTED ACTIVITIES BY INSTRUCTIONAL PROGRAMS
(Percent of "extensive" and "frequent" responses)

Student-Oriented Activities	Classroom	Resource Room
Discussion	1 (89%)	3 (65%)
Listening Activities	2 (86)	2 (55)
Self Concept Development (attitude)	3 (69)	2 (72)
Individualized Pupil Assignment	4 (60)	1 (77)
Self-Evaluation (student)	5 (59)	5 (47)
Role Playing	6 (39)	11 (6)
Creative Writing	7 (36)	6 (13)
Language Experience Charts	8 (34)	6 (13)
Oral Reports	9 (21)	11 (6)
Choral Speaking	9 (21)	9 (8)
Writing Reports	11 (18)	9 (8)
Field Trips	12 (1)	8 (9)

Conclusions

As a result of the data obtained from the Instructional Information Feedback System, the following conclusions were made:

- Audio Tapes (cassette) and the Eight-Student Listening Station were the most frequently used items; the extent of their usage appeared to be independent of grade level, organization, or aide support.
- Classroom Teachers depended more heavily on the five basic Instructional Media (Audio Tapes (cassette), Record Player, Eight-Student Listening Station, Filmstrip Viewer, Overhead Projector) than did Resource Room Teachers; the Resource Room Teachers, however, utilized more equipment specifically designed for motivation and individual instruction.
- Five Teaching Techniques were used "extensively" or "frequently" by all Language Center personnel. These were the interaction techniques involving Praise, Acceptance, Student Talk, Questioning, and Teacher Self Evaluation.
- Four Student Oriented Activities - - Listening Activities, Discussions, Self-Concept Development (attitude), and Self Evaluation (student) - - were used "extensively" or "frequently"; the extent of their usage appeared to be independent of grade level, organization, or aide support.

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DEMONSTRATION CENTER FOR LANGUAGE-HANDICAPPED CHILDREN

ATTITUDES OF CLASSROOM TEACHERS, RESOURCE TEACHERS, AND EDUCATIONAL DIAGNOSTICIANS TOWARD UTILIZATION OF INSTRUCTIONAL MEDIA, TEACHING TECHNIQUES, AND STUDENT-ORIENTED ACTIVITIES IN THE LANGUAGE CENTER PROJECT

by

William A. Young, Jr., Ed.D. and Max D. Miller, Ed.D.

This study analyzes attitudes of The Language Center's professional personnel concerning the utilization of Instructional Media, Teaching Techniques, and Student-Oriented Activities for the purpose of improving instruction of language-handicapped pupils.

Professional personnel used 15 weighted values to rank-order 15 areas of instruction. Important factors in the improvement of instruction for language-handicapped children were contrasted between fall and spring semesters and compared for differential attitudes of professional personnel.

Method

Data were secured in September, 1972 and April, 1973 by a survey of all classroom teachers, resource teachers, and educational diagnosticians. Each person participating in the survey was asked to identify the most important piece of Instructional Media Equipment, Teaching Technique, or Student-Oriented Activity used in the improvement of instruction of language-handicapped children by applying weighted values to each. Weighted values were assigned as three values of twenty, six values of ten, and six values of one, for a total of fifteen values (one value for each of the fifteen ranked Instructional Media, Teaching Techniques, and Student-Oriented Activities selected for study during the 1971-1972 school year). Four kindergarten, five third, and four sixth grade resource teachers, six educational diagnosticians, and twelve third and fourth grade classroom teachers participated in the study.

Results

The Spearman rank-order correlation coefficient (rho) was used. This coefficient describes the relationship between the ranks assigned the fifteen instructional items in the fall, 1972-spring, 1973 survey. The data showed all coefficients to be moderately high, and significant at the .01 level. Magnitudes of relationship ranged from a low of .64 for sixth grade resource teachers to a high of .86 for educational diagnosticians (see Table 1).

TABLE 1
RELATIONSHIP OF RANKINGS OF INSTRUCTIONAL MEDIA, TEACHING TECHNIQUES, AND STUDENT-ORIENTED ACTIVITIES

Group	Coefficient	t*
Kindergarten Resource Teachers	.84	5.62
Third Grade Resource Teachers	.76	4.26
Sixth Grade Resource Teachers	.64	3.01
Educational Diagnosticians	.86	6.08
Classroom Teachers	.77	4.34

*All values of t were significant at the .01 level.

A chi-square analysis of the weights assigned to variables suggested that in each case there was a differential weighting. One exception was that of the classroom teachers (see Table 2).

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T. S. Hancock, Executive Director, Region IV
Ralph Tator, Ed.D., Project Director

TABLE 2
DIFFERENCES IN WEIGHTS ON INSTRUCTIONAL MEDIA, TEACHING TECHNIQUES, AND STUDENT-ORIENTED ACTIVITIES BY PROFESSIONAL STAFF MEMBERS

	Fall		Spring	
	Chi-Square	*p*	Chi-Square	*p*
Kindergarten Resource Teachers	40.31	.01	39.41	.01
Third Grade Resource Teachers	40.18	.01	44.07	.01
Sixth Grade Resource Teachers	32.56	.01	34.52	.01
Educational Diagnosticians	46.66	.01	55.50	.01
Classroom Teachers	14.82	n.s.	12.79	n.s.

Chi-square value is interpreted as indicating that there was a significant difference in the weights assigned Instructional Media, Teaching Techniques, and Student-Oriented Activities by kindergarten, third and sixth grade resource teachers and educational diagnosticians, but not by classroom teachers. Classroom teachers did not give differential weightings to the fifteen items (see Table 3).

Conclusion

Generally, kindergarten, third and sixth grade resource teachers, educational diagnosticians, and classroom teachers in the fall and spring testing judged Teaching Techniques and Student-Oriented Activities as equally important, but judged Instructional Media as less important, in the improvement of instruction for language-handicapped pupils.

Kindergarten Resource Teachers

Kindergarten resource teachers identified Listening Activities and Individualized Pupil Assignment as most important in the improvement of instruction. Self Concept Development (attitude) was considered most important in the fall semester but dropped to a mid-point ranking in the spring testing.

Third Grade Resource Teachers

Third grade resource teachers identified Self Concept Development (attitude), Individualized Pupil Assignment, and Teacher Self Evaluation as important factors in the improvement of instruction for language-handicapped pupils. Third grade resource teachers' belief in the value of Audio Tapes and Eight-Student Listening Stations dropped between the fall and spring testing. Acceptance by both peers and teachers, as well as Discussion as a Student-Oriented Activity, improved between the fall and spring testing.

Sixth Grade Resource Teachers

Acceptance, Praise, and Individualized Pupil Assignments were identified by sixth grade resource teachers as important. Self Concept Development (attitude) became very important to sixth grade resource teachers for the improvement of instruction in the spring of 1973, compared with fall testing results. The use of Audio Tapes, the Overhead Projector, and Questioning as a Teaching Technique became less important in the spring as compared with the fall.

Educational Diagnosticians

Self Concept Development (attitude), Acceptance by peers, and Teacher Self Evaluation techniques were identified by educational diagnosticians as the most important activities for improving instruction with language-handicapped children. Individualized Pupil Assignment became less important and Praise became more important from fall to spring. Overall, educational diagnosticians placed less emphasis on Instructional Media than did resource teachers or classroom teachers.

Classroom Teachers

Praise and Self Concept Development (attitude), as well as use of Audio Tapes and the Eight-Student Listening Station, were identified by classroom teachers as the most important activities and materials needed in the improvement of instruction for language-handicapped pupils. Classroom teachers seemed to place more emphasis on the use of Instructional Media than did resource teachers or educational diagnosticians.

Recommendations

When attempting to improve the instruction of language-handicapped children by kindergarten, third and sixth grade resource teachers, educational diagnosticians, and third and fourth grade classroom teachers, the following recommendations should be considered:

Teaching Techniques and Student-Oriented Activities should be emphasized.

Self Concept Development, Individualized Pupil Assignment, and Praise should be stressed as Teaching Techniques and Student-Oriented Activities.

TABLE 3

RANKINGS OF SELECTED INSTRUCTIONAL MEDIA, TEACHING TECHNIQUES. AND STUDENT ORIENTED ACTIVITIES
(Weights of Individual Selection)*

INSTRUCTIONAL MEDIA	Kindergarten RT		Third Grade RT		Sixth Grade RT		Educational Diagnosticians K, 3, 4, 6		Classroom Teachers 3,4	
	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
Audio Tapes	*7*	*5*	*5*	*11*	*2*	*7*	*11*	*11*	*4*	*3*
	7.75	10.50	10.40	4.60	12.75	8.00	4.17	2.5	11.18	10.33
Eight-Student Listening Station	*10*	*12*	*8*	*13*	*9*	*10*	*12*	*12*	*3*	*6*
	5.50	3.25	8.60	1.00	8.00	5.50	4.00	1.00	12.09	8.75
Record Player	*7*	*6*	*14*	*13*	*14*	*15*	*13*	*12*	*11*	*9*
	7.75	8.00	1.00	1.00	1.00	1.00	2.50	1.00	6.82	7.92
Filmstrip Viewer	*15*	*12*	*13*	*13*	*14*	*5*	*14*	*12*	*13*	*12*
	1.00	3.25	2.80	1.00	1.00	10.50	1.00	1.00	5.27	5.58
Overhead projector	*13*	*15*	*14*	*12*	*8*	*13*	*14*	*12*	*8*	*8*
	3.25	1.00	1.00	2.80	8.00	3.25	1.00	1.00	7.82	8.00
TEACHING TECHNIQUES										
Praise	*4*	*2*	*6*	*4*	*3*	*1*	*9*	*4*	*1*	*1*
	12.50	15.00	10.20	12.20	12.50	15.00	8.50	11.67	12.82	14.25
Acceptance	*5*	*7*	*9*	*5*	*1*	*1*	*4*	*3*	*9*	*7*
	10.25	7.75	6.60	12.00	15.00	15.00	13.33	15.00	7.64	8.67
Student Talk	*5*	*4*	*10*	*9*	*12*	*13*	*7*	*8*	*5*	*5*
	10.25	12.50	6.40	8.40	3.25	3.25	8.67	8.5	10.36	9.42
Questioning	*10*	*7*	*10*	*10*	*5*	*10*	*6*	*6*	*14*	*13*
	5.50	7.75	6.40	8.20	10.50	5.50	10.00	10.17	4.27	5.50
Teacher Self-Evaluation	*13*	*12*	*3*	*3*	*6*	*6*	*3*	*2*	*12*	*9*
	3.25	3.25	14.00	14.00	10.25	10.00	13.50	16.67	6.00	7.92
STUDENT-ORIENTED ACTIVITIES										
Listening Activities	*2*	*1*	*4*	*7*	*8*	*9*	*10*	*8*	*7*	*14*
	15.25	17.50	12.00	10.20	10.00	7.75	5.50	8.5	8.45	4.83
Discussions	*10*	*7*	*12*	*6*	*11*	*7*	*7*	*10*	*9*	*4*
	5.50	7.75	4.60	10.40	7.75	8.00	8.67	5.5	7.64	10.25
Self Concept Development (attitudes)	*1*	*7*	*1*	*1*	*6*	*1*	*1*	*1*	*2*	*2*
	17.50	7.75	16.00	16.00	10.25	15.00	16.67	18.32	12.73	12.75
Self Evaluation (student)	*9*	*11*	*6*	*8*	*12*	*10*	*5*	*4*	*15*	*15*
	5.57	5.75	10.20	10.00	3.25	5.50	11.83	11.67	3.45	4.75
Individualized Pupil Assignment	*3*	*2*	*1*	*2*	*3*	*4*	*1*	*6*	*6*	*11*
	15.00	15.00	16.00	14.20	12.50	12.75	16.67	10.17	9.45	7.08

* Numerals in italic type represent rank order.
Numerals in roman type represent weighted values.

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