DOCUMENT RESUME

ED 100 107 EC 070 977

TITLE Programming for the Language Disabled Child: Booklet 3: Specific Programmatic Techniques.
INSTITUTION Texas Education Agency, Austin.
NOTE 13p.; For related information see EC 070 975-992

EDRS PRICE MF-$0.75 HC-$1.50 PLUS POSTAGE
DESCRIPTORS Exceptional Child Education; Intervention; *Language Handicapped; Models; Programed Instruction; *Program Evaluation; *Teaching Methods
IDENTIFIERS *Project CHILD

ABSTRACT

Described are three specific instructional programing techniques recommended as a result of Project CHILD, a research effort to validate identification, intervention, and teacher education programs for use with language handicapped children. The three intervention models are thought of as being located at equidistant points on a continuum from linear-rigid at one end to nonlinear-flexible at the other pole. Described are the following programs and related materials: alphabetic, phonetic, structural linguistic approach (APSL--the most highly structured and linearly sequenced program); the programed instruction approach (intermediate in structure, linear sequence, and individualization); and the individually prescribed program approach (the non-linear unstructured, and individualized method). The three programs are compared in a chart based on the continuum in terms of the teacher's role in the intervention method, the teacher-student relationship, the role of the educational diagnostician, program placement, program development, and materials. Evaluation of the comparative efficiency of the three models reveals no clear advantage of any one program, though the APSL approach was more effective with the more severely disabled students. (DB)

Programming for the Language Disabled Child

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Booklet II

SPECIFIC PROGRAMMATIC TECHNIQUES

Project CHILD

Texas Education Agency

Austin, Texas

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SPECIFIC PROGRAMMATIC TECHNIQUES

This booklet describes three models for intervening in the instructional process of language handicapped children. The rationale for choosing these three intervention models, brief descriptions of each model, and recommendations based on research findings of Project CHILD comprise the content of the booklet. Readers who wish detailed information on any one of the instructional programs may find this in the publication, Project CHILD, Final Report.

Review of the literature regarding remediation of language disorders, learning disabilities, and central processing disfunctions revealed a paucity of information upon which to base selection of an instructional model. Part of this stemmed from the fact that in the past many of the intervention models have been either inappropriate for public school implementation, inadequately described, or unsupported by research data.

Faced with the problem of selecting an instructional approach for this project and with no single approach emerging as a clearly evident "best choice," Project CHILD elected to make evaluation of intervention models one of the principal research thrusts of this project.

Examination of existing intervention models revealed three models which seem to be located at approximately equidistant points on a single continuum, from linear-rigid on the one end to nonlinear-flexible at the other pole. Selection of these instructional approaches consequently offered the distinct research advantage of enabling the investigator not only to make statements about the efficacy of the particular program but also through interpolation of results to make statements about programs which might also be located on this continuum but in position different from the three models investigated.

A description of the three programs, and explanation of the continuum upon which they can be located, and the rationale for so locating them follows:

DESCRIPTION OF THE INSTRUCTIONAL PROGRAMS

ALPHABETIC, PHONETIC, STRUCTURAL LINGUISTIC APPROACH

The Alphabetic, Phonetic, Structural Linguistic Approach to Literacy (APSL) program is a highly structured, uniformly applied, linearly sequenced instructional program. Its uniformity, structure, and linearity are based on the assumption that language disability is a unidimensional problem and that a unidimensional intervention is therefore appropriate.

APSL materials and methodology present language as a series of consistent patterns of visual, auditory, and oral communications stimuli; the individual stimulus and correct response can be committed to memory and only gradually is the learner required to master the system of language so that he can apply the generalization, or rule, to an unknown stimulus and determine an appropriate response.

Each stimulus is presented on a multi-sensory basis, utilizing the child's ability to learn by seeing, hearing, and speaking. Tactile learning is also given much significance in that rough surfaced materials are used continuously for the child to reproduce written symbols, placing his finger on the abrasive surface to maximize the sensation of touch.

This program is characterized by much repetition and drill, largely based on an assumption that the language disabled child relies heavily on memory for all learning. In the APSL approach this is typified in constant drill and practice, both written and oral, on such items, as word families, i.e., *sin, pin, tin*. Thus the child writes, reads, hears, and says the letters, words, patterns and rules repeatedly.

The starting point for each child is the same in this instructional program. Once he has been identified as having a language disability, he begins with basic letter recognition, alphabetic sequence, and sound-symbol relationships. Each student proceeds directly through the APSL materials with no variation. Permitted individualization is limited to one dimension — rate of progress.

An integral feature of the APSL program is individual instruction on the basic language materials. This is believed to be essential for pacing, for immediate reinforcement or

correction, and for maintaining attention to the learning task. In the Project CHILD adaptation of this program this individual instruction was made possible by the use of volunteer tutors.

PROGRAMMED INSTRUCTION APPROACH

The Programmed Instruction (PI) approach is a structured, linearly sequenced, individually applied instructional program. Its principal mode of instruction is the linear program, which consists of the presentation of learning tasks broken down into small sequential stimuli, active response by the learner, and immediate reinforcement of correct responses. The basic assumption upon which this program relies is that language disability is characterized by gaps in sequence of skills, low motivation, and inadequate prior training.

The materials used in this instructional approach are limited to linear programs appropriate to the learner. The language disabled child works through the programs at his own rate, but in a strictly linear fashion with no sequences deleted. Periodic assessment of progress permits some recycyling and reassignment.

The learner is placed into appropriate programs at his level based upon diagnostic information. Although progression through the programs is linear and the programs are highly structured, the student does have some alternatives. If he fails to progress he may be allowed to repeat the program or he may be assigned a parallel program.

The materials and methods of this instructional approach are pre-determined and are based on the nature of language disability not on the specific needs of individual learners. Although there is a degree of flexibility and individualization, it must be within the limits of the pre-determined materials and mode of instruction.

INDIVIDUALLY PRESCRIBED PROGRAM APPROACH

The Individually Prescribed Program approach (IPP) is a non-linear, unstructured, individualized method of instruction based on the assumption that by pinpointing the nature of the language disability the teacher will have a rational basis for selecting a particular remedial method. This program

begins with a determination of each learner's profile through an assessment of his assets and deficits. Individual instructional strategies are devised or selected to ameliorate the child's deficits and to utilize his strengths to attain appropriate educational progress.

Materials and methods are selected from a wide variety of alternatives. Resources and methods are in no way limited by this instructional approach but rather are a function of the needs of the individual learner.

Diagnosis within this method is dynamic. Appraisal results are seen as tentative and the student's profile is constantly reviewed and revised according to his daily classroom performance. Instructional strategies are eliminated and new ones are devised as indicated by daily evaluation of student progress.

Schedules may vary widely with different students and the length of time spent on different activities will be part of the individually prescribed strategies.

The three approaches described above can be compared readily by placing them on a continuum extending from linear to non-linear. On such a scale complete linearity is represented by a single instructional system with one point of entry, one sequence of progression and one point of completion. At the opposite pole the completely non-linear approach embraces any instructional system, the only criterion for utilization being the child's continuous growth. Thus, the material to be used, method of presentation, point of entry, sequence of progression and point of completion are all functions of the specific nature of the learner's disability. The assumption is that of the three instructional approaches used in Project CHILD, IPP most closely approximates the non-linear extreme, and APSL most closely resembles the linear pole with PI located at approximately the center of the scale. The following comparison of the respective systems indicate the bases for such a placement on the linear, non-linear continuum.

LINEAR — NON-LINEAR

APSL	PI	IPP
TEACHER: INTERVENTION METHOD Adheres rigidly to prescribed method of presentation.	**TEACHER: INTERVENTION METHOD** Performs as a facilitator and manager for programming small group instruction.	**TEACHER: INTERVENTION METHOD** Works with educational objectives for each learner
TEACHER–STUDENT RELATIONSHIP Teacher will maintain a formal structured directive relationship by making certain each learner is focused and involved in the academics. Continuous control over learner's rate of progress through APSL sequence. Emphasizes verbal and non-verbal praise from the teacher.	**TEACHER–STUDENT RELATIONSHIP** Teacher will provide structure but allows for group instruction within academics. Learner's assessment daily over nine exercises prescribed by the teacher. Praises student progress through graphic displays: rewards progress with various extracurricular activities. Utilizes appropriate behavior modification techniques.	**TEACHER–STUDENT RELATIONSHIP** Teacher determines and defines role of relationship on basis of educational objectives. Controls rate of learner's progress as stated by educational objectives. Methods of praise determined by educational objectives.
EDUCATION DIAGNOSTICIAN: Available upon teacher's request for consultation.	**EDUCATIONAL DIAGNOSTICIAN:** Will assist in developing and interpreting student's profile bi-monthly.	**EDUCATIONAL DIAGNOSTICIAN:** Assists teacher in all facets of programming; works with teacher to develop educational objective. Refers learner for re-staffing if in her opinion the prescribed program is ineffective (weekly).

LINEAR		NON-LINEAR
APSL	PI	IPP
PROGRAM PLACEMENT Initial screening for language disability. **PROGRAM DEVELOPMENT** Learner will enter material at the beginning; Level 1.	**PROGRAM PLACEMENT** Teacher will use initial screening information and placement test to determine the functional level of each learner. **PROGRAM DEVELOPMENT** Learner will be placed in basic materials 1½ to 2 years below level of actual functioning.	**PROGRAM PLACEMENT** A committee will provide an initial evaluation of each learner (psychologist, principal, teacher, educational diagnostician, supervisor) Educational diagnostician will be responsible for final development of learner's educational program. Teacher, with the guidance of educational diagnostician, will formulate educational objectives for each learner. **PROGRAM DEVELOPMENT** Learner will be placed at level of actual functioning as determined by initial evaluation.

LINEAR		NON-LINEAR
APSL	PI	IPP
PROGRAM DEVELOPMENT	**PROGRAM DEVELOPMENT**	**PROGRAM DEVELOPMENT**
Classroom is organized in terms of total group.	Classroom is organized in terms of small groups.	Classroom is organized in terms of individual learner schedules.
Learner will be provided group auditory discrimination (50 minutes daily)	Learner will work individually with a daily schedule provided.	Learner will be encouraged to develop self-initiation and self-direction of learning. Will work independently and in small groups.
Learner will be provided one-to-one instruction in APSL materials (50 minutes daily)	Daily schedule will vary as to small group.	Recycling possible in any material or material selected by teacher or diagnostician.
(20 minute Readers Digest)	Recycling possible through parallel materials. Determined by teacher & educational diagnostician on the basis of weekly profiles.	Learner proceeds through an unlimited variety of materials at the discretion of diagnostician and/or teacher. Provision is made for daily evaluation and possible adjustment of materials and/or schedule.
Daily schedule will be held constant.	Learner proceeds through a limited set of materials; determined by constant daily interaction.	
Daily limited review is provided in material previously covered.		
Learner proceeds through material as he masters it to the teacher's satisfaction.		

LINEAR		NON-LINEAR
APSL	PI	IPP
MATERIALS	**MATERIALS**	**MATERIALS**
APSL, visual, oral, reading and auditory discrimination materials. Supplementary materials will be limited to the Weekly Reader.	Learners will be programmed in: SRA Lab. (Oral) SRA–RFU Weekly Readers – RST Weekly Readers – Map study skills Controlled Readers AVK or spelling (Dolch) Math – provided by Benton Review Limited Supplementary Materials.	Unlimited Not applicable

RECOMMENDATIONS

Analysis of data collected on the efficiency of the three intervention models revealed no clear advantage for any one of the programs over the other two. The greatest effect was found in the metropolitan schools with all intervention models being found generally superior to the control group and with the APSL model yielding the greatest gain. This trend was not borne out, however, in the suburban district where the intervention models proved superior to the control only in selected areas — particularly language and word knowledge — and where gains were less significant.

Further analysis reveals two possible factors contributing to this difference in findings. First, the metropolitan school district students averaged about one year lower in achievement measures used at the beginning of the study and included some inner-city schools with resultant larger minority representation than in the suburban district. Also the metropolitan district adhered much more closely to the intervention model which perhaps produced data that emphasized differences between and among intervention models and districts.

Based on these and similar findings, it is recommended that the APSL model and the APSL materials be used with the more severely disabled students. The extremely structured format and the one-to-one instruction appear to be highly effective when appropriately implemented. In addition the very small cost and minimal staff training requirements add to the desirability and practicality of implementing this program.

The programmed instruction approach also proved effective when adequately implemented and it also is an economical and easily implemented model — its particular advantages are:

1. The highly organized format which "spells-out" exactly what teacher and student are to do.
2. The behavior modification applications which allow the teacher and student to "take stock" of progress daily.
3. The placement process which assures the student's immediate success.
4. The nature of the instructional materials which allow the student much control over his own instruction.

The Project CHILD adaptation of the APSL model consisted of a full classroom size implementation with approximately one-half of the class population having a language disability. This type application (utilized in all Project CHILD intervention models) has the advantage of not "setting-apart" the LD child plus the obvious economic advantage of a regular classroom over a resource room.

The third intervention model, IPP, offers an alternative for those children who do not respond to either the APSL or PI methods. While many language handicapped children can be habilitated in these two models, there are those whose deficiencies are not overcome by either. Such children may require the extensive appraisal and flexible programming available in the IPP classroom.