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A DESCRIPTIVE STUDY OF A CREATIVE APPROACH TO TEACHING CHILDREN WITH LEARNING DISABILITIES

Olive Ward Megenity

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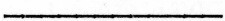
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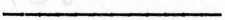
A DESCRIPTIVE STUDY OF A CREATIVE APPROACH TO TEACHING
CHILDREN WITH LEARNING DISABILITIES



A Thesis
Presented to
the Graduate Faculty
Central Washington State College



In Partial Fulfillment
of the Requirements for the Degree
Master of Education



by
Olive Ward Megenity
December, 1972

A DESCRIPTIVE STUDY OF A CREATIVE APPROACH TO TEACHING
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This study describes a program and its rationale for S.L.D. children as it evolved over a two-year period. Approaches included multi-sensory approach for reading, typing to develop reading and spelling, and a combination of behavioral modification and group therapy to improve self-image and develop social competence. Shifts in grouping and changes in environment caused continuous revision of the program. Test results showing growth patterns in reading and spelling are included. Suggestions for additional research are made.

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Most of all, thanks to my husband, Dale, for years of patient understanding.

O. W. M.

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Chapter 1

THE PROBLEM, DEFINITIONS, AND OVERVIEW

The 42nd session of the Legislature of the State of Washington enacted, and Governor Evans signed into law, the 1971 Amendatory Act. This legislation directs each school district to provide an education "directed to the unique needs, abilities, and limitations of" all handicapped children within the school district. A specific learning disability (hereafter referred to as S.L.D.) is one of the recognized types of handicap specified in the act.

In order for a school district to comply with this law with respect to S.L.D., there must be a recognition by the district and by the State Department of Public Instruction of the types of instructional programs that will meet the legal qualifications. Moreover, teachers must be available who are qualified to instruct according to the "unique" needs of children with S.L.D. Administrators must understand the objectives of the teachers and the ways in which methods and materials used to instruct S.L.D. children differ from those used in the regular classroom.

One has only to involve a group of randomly collected educators in a discussion of problems related to the education of children having

symptomology of specific learning disability to find for oneself that there exists a wide variety of biases and little awareness of the pertinent research.

The apparent confusion of approaches being proffered was discussed by Dr. Marianne Frostig, speaking at the Melbourne, Australia, symposium on dyslexia in March, 1968. She summed up the problem of approach this way:

Many educators believe that the rules which apply to these educational procedures [referring to Skinnerian operant behavior techniques and programmed instruction] derived from psychological theories are all that need to be considered [italics not in the original]. Such rules are, for instance, to begin at the level of the child's ability to proceed by step-by-step sequence (sic) to let the child know immediately the correctness of his response (immediate feedback) and so on.

Proponents of this point of view emphasize the analysis of subject matter and are of the opinion that an analysis of the learner can be neglected. Adjustment to individual needs may only be provided by a programme which is so constructed that each learner may proceed at a different speed which is commensurate with his ability. The adjustment to individual needs is therefore one of quantity rather than quality. The general rules of teaching based on learning theory hold for all children, but they do not guide the educator in these qualitative adjustments to individual differences which are of equal importance.

Other research workers believe that qualitative differences of the curricula and teaching methods are [italics not in the original] necessary when special types of children are to be taught. . . . Their programmes and curricula are designed to fit the common characteristics of a group and they attempt to aid the children who fall into a certain category in overcoming those difficulties which they believe to be the most frequent if not universal ones in this particular group. [The reference here is to the work of Strauss and Lehtinen (33) and Cruickshank (4, 5) and others.]

Other scholars . . . Peter (1965), Frostig (1965), and Gallagher (1966) [28, 18, (sic)] have advanced the point of view that it is of advantage to take each child's individual differences into account and not only group differences [italics not in the original] (12:13-14).

It has been the experience of the author while developing the program described herein that problems related to the education of S.L.D. children were attacked by administration and by teachers on the basis of child-development theories advanced for the "normal" population with no real concern for their applicability to the S.L.D. child. Cruickshank and his colleagues have been extremely critical of this practice (6:19-25).

The program described herein began with the basic assumptions that:

1. S.L.D. children as a group have different learning problems; and individuals differ within the group.
2. To give maximum help to S.L.D. children, the teacher needs to be aware of the physiological and psychological implications of S.L.D. as well as being capable of adapting a wide variety of educational techniques that have been developed specifically for such children.

THE PROBLEM

Statement of the Problem

The 1971 Amendatory Act places upon the schools and the State Department of Public Instruction the obligation to define and

implement programs that meet the "unique needs" of S.L.D. children. This study describes how one such program evolved and was modified as circumstances and knowledge changed.

Purpose of the Study

A two-year longitudinal study of a program designed to utilize contributions of learning theory and research to the unique learning problems symptomatic of S.L.D. was undertaken. This thesis is a description of the two-year period. Particular attention is paid to the influence of differing physical environments on the behavior of the children involved.

Importance of the Study

The program presented details teaching techniques that combined the strengths of behavioral modification and learning theory with recognition of specific differences in learning patterns which complicate remediation for children properly classified as S.L.D. Information on the effects of differing environments when the program approach is held relatively constant is also a contribution to the literature.

Limitations of the Study

The terminology of educators when referring to S.L.D. is so suffused with emotional overtones and conflicting theories that agreement on any basic departure point is improbable. This confusion and

emotionalism is handicapping, not only to the teacher and administrator, but to the researcher who attempts to equate statistically any approaches to methodology and/or measure their results. The inadequacy of measurement tools also limits definitive evaluations. The researcher, therefore, is limited to the role of observer and interpreter.

The program described herein had several specific limitations. The constant shifting of students and of time blocks was a limiting factor. The amount of aide time available to the Experimental Teacher (hereafter referred to as E.T.) also varied so that procedures established were not maintained consistently. The intrusion into the environment of philosophical conflicts among teachers and administrative personnel influenced the data to an unknown degree. A marked change in the economy, both of the society and of the school district, had obvious but unmeasurable influences on student behavior and also on administrative decisions. The study was further limited by the short time-period covered. The fact that the study involved only one teacher with one group of children was also limiting.

DEFINITION OF KEY TERMS

Specific Learning Disability

For the purpose of this study, Specific Learning Disability refers to:

. . . a retardation, disorder, or delayed development in one or more of the processes of speech, language, reading, writing,

arithmetic, or other school subjects resulting from a psychological handicap caused by a possible cerebral dysfunction and/or emotional or behavioral disturbances. It is not the result of mental retardation, sensory deprivation, or cultural or instructional factors (24:73).

Dyslexia

In the context of this study, "dyslexia" is a synonym for S.L.D. English and English defined dyslexia as an "impairment of the ability to read, or to understand what one reads silently or aloud, independent of any speech defect" (10:167).

Strauss Syndrome

Strauss and Lehtinen (33:28-97) developed the classification of the "exogenous mental retardate or brain-injured child." The symptomology they noted included being hyperactive, emotionally labile, perceptually disordered, impulsive, distractable, and perseverative.

Hyperactive

Hyperactivity as applied to S.L.D. children has the overtones of "driveness" as suggested by Kahn (21:748-752). The child not only engages in an abnormal amount of activity, but does so in a manner suggestive of inefficient control mechanisms in the areas of the brain governing the responses to stimuli.

Cruickshank, et al. described as hyperactive the child "who sits quietly at his desk," apparently absorbed in work but actually getting nothing done.

This child is attracted by pictures and page numbers in his book, by flaws and marks on the paper, or by any features of the material which are for most children irrelevant. His seeming inattentiveness [he didn't do his work] is the expression of an abnormally attentive condition (4:131).

Perseveration

Perseveration is the tendency to continue in an activity, once it is begun, without ability to easily make changes when presented with modified or differing stimuli. For instance, a child continues writing a word in the same incorrect manner after having the correct pattern presented to him.

Sequencing

Sequencing refers to the ability to hold in mind and/or reproduce in correct order a series of stimuli--auditory, visual, or tactile.

Distractibility

Distractibility is the tendency for one's attention to be easily drawn to extraneous stimuli or to focus on minor details with a lack of attention to major aspects.

Multi-Sensory Approach to Reading

The term multi-sensory approach is herein used to apply to any methodology of reading instruction which combines simultaneously sound, sight, and feel (writing, tracing, drawing, etc. of the word to be learned while hearing or vocally reproducing the sounds being represented by the written symbol).

Kinesthetic Method

Any method of treating reading disability in which pupils trace the outline of words or in other ways systematically incorporate muscle movement to supplement visual and auditory stimuli is considered a kinesthetic method.

Strophosymbolia

This term applies to a reversal or disordered arrangement of symbols observed in the reading and writing performance of children.

Dissociation

Dissociation refers to the inability to see things as a whole, as a unity, or as a gestalt. The subject responds to a stimulus in terms of parts or segments; also the term includes difficulty on the part of the subject in bringing two or more parts together into a relationship to complete a whole.

Agitographia

This refers to a writing disability characterized by very rapid writing movements and the omission or distortion of letters, words, or parts of words.

Non-Verbal Symbolic Functions

Johnson and Myklebust (20:34-35) used this term to describe the ability to manipulate mentally concepts of time, space, volume,

speed, distance, etc. It is in this context that it is used in this study.

Social Perception

Johnson and Myklebust (20:34) used this term to designate the ability to identify and recognize immediately the meaning and significance of the behavior of others.

Psychoneurological Disorders

This term is used, as was suggested by Myklebust (26:2-3), to indicate that such disabilities as those apparent in children properly termed as S.L.D. are the psychological concomitants of neurological deficits.

Receptive Auditory Asphasia

Receptive auditory asphasia describes a condition under which a child may have auditory acuity and also an internalized understanding of a concept or event and still be apparently unable to comprehend words naming or describing that concept or event (20:74-75).

Expressive Aphasia

For the purpose of this study, expressive aphasia is a term used to designate a disability of processing language output that results in inability to order words in written sentences, to repeat sentences in correct sequence, or to recall (retrieve) a word for spontaneous usage.

Auditory Discrimination

Auditory discrimination is the ability to identify and accurately choose between sounds of different frequency (pitch), intensity (volume) and pattern. It includes the ability to distinguish one speech sound from another. This is dependent upon auditory acuity, but acuity does not guarantee ability to discriminate.

Energy Leak

This term is used to describe the activating of muscles not related to the area of stimulation by intensive effort to concentrate output. An example is the leg jerk while reading.

Open Concept School

This term appears in two distinct contexts: (1) a school devoid of physical barriers to sound or vision--a building without inner walls; (2) a philosophy of teaching that encourages physical involvement of the learner in a meaningful (to him) curriculum within a supportive structure.

Permissive Philosophy

An educational philosophy which seeks to interest the child in learning in his own time and in his own way with a minimum of teacher interference. It presupposes an absence of structure.

OVERVIEW OF REMAINING CHAPTERS

The problem of the study and definition of terms have been presented in Chapter 1. Chapter 2 briefly reviews the major contributions of the literature. A description of the program and the rationale for the varied approaches are presented in Chapter 3. Chapter 4 discusses changes in physical environment and divergent philosophical approaches as they affected the students and the program. In Chapter 5 some of the problems of academic testing are discussed and test results are given. A summary, the conclusions reached, and recommendations made are presented in Chapter 6.

Chapter 2

REVIEW OF THE LITERATURE

Literature that has influenced either the development of the program under study or the evaluation of that program falls into four main categories:

1. Studies of research and programs based on research that hypothesizes S.L.D. to be the result of psychoneurological disturbances.
2. Approaches based on studies in operant behavior techniques.
3. Writings concerning methods of developing social behavior.
4. Discussion of differing physical environments and their relationship to learning.

The literature reviewed represents major contributions in the field. They are discussed in the order given above.

S.L.D. AS PSYCHONEUROLOGICAL INVOLVEMENT

Dr. N. Dale Bryant gave the following concise description of the learning behaviors common to the group termed as suffering "language disability" or "dyslexia":

Dyslexia typically occurs in boys of normal general intelligence (although some intelligence subtests, such as coding, are usually low). Some reading ability may be present, but it is significantly below grade placement. Material is read haltingly and simple errors are often made. A word will be known in one sentence and unrecognized in the next. Frequently the dyslexia case will guess at words on the basis of initial letter, length, and a few other insufficient cues. He may know the names of letters and the sounds of most consonants, but he usually becomes confused in giving vowel sounds--particularly when presented in a word. There is usually no difficulty in pronouncing sounds after hearing them and he can usually blend two or possibly even three sounds when he hears the sounds separately. In contrast, he has great difficulty in blending letter sounds when he has to produce the sounds from visual presentation of the letters, even though he might be able to produce the specific letter sounds if each letter is presented independently. He can differentiate between similar words or shapes if both are present at the same time, but he has difficulty in retaining a visual image of a word. He can make associations as long as there are not too many at one time. He may appear to have a poor memory but only in learning that is similar to reading. In brief, his reading skills and errors are very much like those of the young readers, and even though he learns to recognize a number of words so that he can read some at higher grade levels, he still makes errors like beginning readers. Dyslexia represents an extreme and continuing lack of reading readiness. There is usually some improvement in readiness in dyslexia cases due to maturation, but this is slow and is of little help in primary and intermediate grades.

Usually associated with the reading difficulties is confusion when quickly identifying right or left, and there is a good chance that the dyslexic boy has some confusion about months, seasons, and judgments of time, direction, distance, and size. On a test of motor development and coordination, he is likely to score low--frequently below the norms for his age. He is much more likely than a normal child to have had speech difficulty, and some difficulties may still remain. Similarly, he may have poor auditory discrimination in spite of adequate auditory acuity (3:2).

Dr. Bryant enumerated five principles of learning that must not be violated if the remediation of a dyslexic child is not to prove more harmful than beneficial:

1. Remediation should initially focus on the simplest, most basic perceptual-associational elements in reading: perception of detail with the gestalt of words and association of sound with the perceived word element.
2. Perceptual and associational responses should be over-learned until they are automatic.
3. The remedial teacher should plan the learning experience and modify the presentation of the task and material on the basis of the child's performance so that the child is correct in nearly all of his responses regardless of whether they are made aloud or to himself.
4. When two discriminations or associations are mutually interfering, the following steps should be taken consecutively:
 - a. One of the discriminations or associations should be learned to an automatic level.
 - b. The second should then be learned to an automatic level.
 - c. The first should be briefly reviewed.
 - d. The two should be integrated starting with tasks where only the difference between the two needs to be perceived.

e. In graduated steps, both should be made automatic when the task requires discriminations and associations in addition to the mutually interfering ones.

5. There should be frequent reviews of basic perceptual, associational, and blending skills and, as rapidly as possible, these reviews should involve actual reading.

Dr. William Cruickshank and colleagues (4:5) placed heavy emphasis upon the problems of distractibility and its relationship to learning. He quoted Homberger (18) as seeing certain of his patients as being "stimulus bound," i.e., unable to refrain from reacting to environmental stimuli which are at the moment essentially unnecessary to adjustment.

It is because of the apparent inability of some children to "screen" the stimuli to which they will react that Cruickshank proposed the removal of all possible distractions from the learning area and advocated intense stimulation values be applied to the learning materials used. Cruickshank also advocated reduced space (this decreased stimuli and also provided an increased feeling of security) and a structured school program and life plan.

Dr. Newell C. Kephart (22, 23) placed emphasis on the motor functions of learning disability. He saw a great need for establishing a sound physiological base for learning and concerned himself with developing instructional devices that helped the child orient himself in

space, time, laterality, and body-image. With Piaget (29), Kephart stressed the developmental pattern of maturing and he designed strategies to remediate in the area or areas where maturation deficits appeared.

Dr. Carl H. Delacato (7) emphasized the underlying neurological base to language problems. He pointed a disapproving finger at continued attempts to remediate the symptoms rather than the causes. He stated that aphasia, delayed speech, stuttering, retarded reading, poor spelling and handwriting, and also reading which falls within the normal range but below mathematical performance, are all symptoms of a developmental deficit. Each is related to a step on a continuum of normal neurological maturation and therefore should be treated as one problem, differing only in degree.

Myklebust and his colleagues (20, 26) drew together the research from many fields and added their own to provide many insights for the teacher into the behavior of the S.L.D. child. By emphasizing the separate functions of the dominant and subdominant hemisphere of the brain, they encouraged attention to the nonverbal deficits often neglected by educators concerned primarily with the problems of language and symbol processing. They emphasized that deficits in nonverbal functions are "at least as consequential and debilitating to behavior as are verbal deficits." These nonverbal functions include "deficits in the concepts of right-left, direction, time, size, speed,

distance, height, and in interpersonal relationships (ability to judge the emotion being expressed by other people)" (26:4).

LITERATURE EMPHASIZING OPERANT BEHAVIOR TECHNIQUES

Becker, Englemann, and Thomas laid out a course to "improve the practice of teaching rather than to teach the student to talk about various theories of learning" (2:v). A careful study was made of behavior modification techniques as they were written into the Distar program.

Schiefelbusch devoted the first two chapters of Methods in Special Education (13:2-48) to a discussion of the basic assumptions underlying the use of behavior modification techniques in the training of exceptional children and to detailing approaches as they have been studied and modified for various groups of children. He emphasized the necessity of a remedial program being specifically and continuously shaped and reshaped for the individual. Two complementary and necessary elements he saw were programmed presentation of the behavior or concept to be learned and constant adjustment of the environment to identify and utilize the most effective contingencies.

He pointed out the differences between what happens in the laboratory school where the environment is constantly being adjusted and in the school setting where there is the need to put the laboratory findings into practice but where the main adjustment is in the regrouping of the children.

Schiefelbusch called attention to the remarks of Homme (19) which pointed up the demands on teacher time of contingency contracting (matching task and reinforcer in advance for the child) and the need for computers to take over these tasks in the future. He also drew attention to the inadequacy of most commercial programs now available and the extreme demands upon teachers if programming should become their responsibility for any normal-sized special education class.

DEVELOPING SOCIAL BEHAVIOR

Rudolf Dreikurs (9:3-83) emphasized the need of every child for a sense of self-worth and belonging. He identified four major roles by which unhappy and insecure children sought to attain social acceptance and counselled the teacher to the following:

1. Sincere love and respect for the innate worth of the child.
2. Constant alertness to the goal the child sought, seldom consciously, by the behavior he manifested.
3. Creative responses to behavior that would be different from that expected by the child and that would reinforce teacher goals rather than the goals intended by the child.
4. Use of class interaction to develop understanding by the child of his own goals, his relationships to his peers, and his ability to function as a valued group member.

5. Development of a consistent, kind, and firm control that afforded an atmosphere of order and stability.

Dreikurs expressed the ultimate goal for the teacher thus:
 "Functioning for the enjoyment of usefulness is the goal of the educator who is trying to remove emotional blocks and assist the child in his social adjustment and academic progress" (9:49).

DISCUSSIONS ON PHYSICAL ENVIRONMENT

Cruickshank is probably the most quoted educational authority concerned with the need for special treatment of the environment to facilitate the learning of the S.L.D. child. The following statements taken from A Teaching Method for Brain-Injured Children summarized the working hypothesis he developed:

It is hypothesized that four elements comprise the essentials in a good teaching environment for brain-injured children with hyperactivity or for hyperactive children whose disturbance may result solely from emotional maladjustment. These four elements are:

1. reduced environmental stimuli,
2. reduced space,
3. a structured school program and life span,
4. an increase in the stimulus value of the teaching materials which are constructed to cope with the specific characteristics of the psychopathology under consideration (4:14-15).

In order to provide such an environment, Cruickshank covered windows and built study carrels so that each child was completely enclosed on three sides in an area small enough so that he could reach

out and touch all three walls. His back was to the open area during periods demanding concentration on task.

The literature reviewed in Chapter 2 represents a wide range of thinking about learning problems and behavior control. From these approaches the rationale for the program under study was developed.

Chapter 3

S.L.D. PROGRAM

The program, as herein presented, was not a controlled laboratory program, but rather an effort by the E.T. to utilize the research findings and expertise of leaders in the fields of special education, psychology, medicine, and general education to meet the learning needs of children as they were assigned to her class. This chapter describes the program as it developed.

ORGANIZATION

Teacher Responsibility

The program developed by the author was based on three main assumptions of teacher responsibility:

1. To help the child improve his skills of reading, language (written and verbal), and mathematics.
2. To help the child achieve a performance level in other learning areas that would enable him to successfully rejoin his peer group when sufficient remediation in major deficit areas would allow.
3. To help the child develop social behavior and attitudes that would allow him to function successfully in school and community.

Emphasis of Study

For the purposes of this study, major emphasis was placed on the language arts and upon the nonverbal functions as they were affected by changes in methodology and environment. Special concerns included the role typing might play as a tool in improving performance in written communication; factors involved in the improvement of reading skills, place of structure and stimulation control in developing a productive learning environment; and development of self-image as a factor in learning.

Period Covered

The program was carried on over a two-year period. The E.T. and some of the children had been together prior to the study, and some references to that period are made where pertinent.

Class Organization, 1969-70

Twelve boys and two girls, ages 9-1 to 11-7, were assigned to the intermediate group taught by the E.T. Instruction began at 9:00 a.m. and school was dismissed at 2:30 p.m.

Daily mathematics instruction for forty minutes and a literature period of thirty-five minutes four days weekly were provided for the intermediate group by a colleague. The E.T. held classes in language development and in typing for the 11- and 12-year-olds who were in the advanced class during those periods. (Many of these older children had

been in a typing situation and in the class of the E.T. the previous year. This was a decision made by and between the teachers to provide continuity of approach for the older group.)

Music and physical education were taught by specialists on alternating days and the study group was so divided that two half-hour periods were available four days a week for intensive work with smaller groups in language skills. A half-hour on Friday was utilized by the teacher for planning while all students attended either music or physical education class. For these activities, the S.L.D. classes participated with their peer groups.

Organizational Change During 1969-70

At the end of the first semester, the language development and typing periods for the older group (11- and 12-year-olds) were combined into one forty-minute period to allow more time in their day for development of research skills, map skills, and independent study. The study class utilized the literature period for literature and for social studies, alternately, with their regular teacher.

Class Organization, Beginning 1970-71

Seven 11- to 12-year-old boys and seven 10-year-olds (six boys and one girl) were assigned to the study group in the fall of 1970-71. As the result of new admittances and shifts between teachers, the experimental group ultimately included five boys ages 11-12+ who had

been one or more years in the S.L.D. program, three boys and a girl in the 10-year-old group with one previous year with the E.T., four 10-year-olds (two girls and two boys) completely new to the program, and two 9-year-old boys. Of the latter two, one had been in a primary S.L.D. program and one had been in the regular classroom.

Organizational Change, 1970-71

As the year progressed, additional students were enrolled in the two classes which were housed together. At mid-year the administrative decision was made to form a third class in order to accept more children from the waiting list. As a result, the class under study retained seven boys 11 years and over, acquired two 12-year-olds who had been transferred from Academic Adjustment classes as improperly placed but who were working on first grade level, and two new boys, one 11 and one 12 years old. Of the latest additions, one had been in an S.L.D. class in a neighboring district and the other was from a regular classroom.

Aide Time

During the first year of the study, one instructional aide was assigned to three S.L.D. classes. She was utilized by the E.T. primarily to hear individual or small group oral reading and to aid in art activities.

By October of the second year, the size of classes had increased so that a full-time aide and a part-time aide were made available. Both worked with each of the two S.L.D. teachers. Duties included carrying out teacher instructions for small groups in every area of the curriculum. Motivation and competition among the older boys increased markedly with the increased adult involvement.

When the third class was formed, aide time was divided three ways.

Music and Physical Education During 1970-71

Music and physical education were combined into an hour block two days a week and taught by specialists. S.L.D. children continued to function as a part of the regular peer group with no adjustment of activities or goals. They participated successfully and some individuals proved especially apt.

Initial Testing, Beginning 1969-70

The WRAT¹ was used to determine levels of spelling and reading word attack skills. An informal oral reading survey was made to give further information as to the level at which each child was able to work.

¹J. F. Jastak, S. W. Bijou, and S. R. Jastak, Wide Range Achievement Test, Revised edition (Wilmington: Guidance Associates, 1965).

A teacher-made test was administered to pinpoint the ability of each child to name the letters of the alphabet, to write the grapheme associated with a given sound, to write a letter named (manuscript and cursive separately), and to write the letters of the alphabet in sequence.

DESCRIPTION OF THE INSTRUCTIONAL PROGRAM

Distar²

That portion of the Distar kit for beginners having to do with immediate recognition of sound-symbol relationships was used for those children needing to establish these relationships. A very fast-moving review with the same material was presented to the other class members who were below a 2.5 reading level.

The section of Distar having to do with rhyming was omitted. The rationale for this was Bryant's first precept of remediation: "perception of detail with the gestalt of words and association of sound with the perceived word element." When the child concentrates on recognition of rhyming sounds without awareness of differences in visual symbols representing the sound, he is later faced with the problem of "unlearning" a partially established relationship when he needs to spell like-sounding endings that are not look-alikes.

²Siegfried Engelmann and Elaine C. Bruner, Distar Reading: An Instructional System (Chicago: Science Research Associates, Inc., 1969).

Multi-Sensory Approach

Objectives: As soon as a group of children (five or more) had mastered the short a sound and several consonants, word building exercises began. The objective was to help the child establish:

1. a constant and clear auditory image of each phoneme related to the visual image of the symbol which represents the phoneme,
2. a physical patterning of each visual symbol, such patterning to become automatically triggered by the appropriate auditory stimulus,
3. the verbal output of the correct phoneme when the visual image was the stimulus,
4. the correct patterning (writing) of the symbol for the phoneme when the stimulus was visual,
5. the ability to blend phonemes into words and then produce written words,
6. the ability to respond to the visual symbols by producing the correct sounds and blending them into a word, and
7. to develop the ability of the child to combine these processes into automatic whole word recognition, pronunciation, and/or reproduction.

To meet these objectives, the E.T. used as a guide the work of Romalda Spalding (32). Extensive adaptations were made. The main points were:

1. Teacher guided letter formation in a consistent top-to-bottom and left-to-right formation.
2. The child verbalized the sound as he wrote the symbol, thereby keeping auditory, kinesthetic, and visual stimuli synchronized.
3. Each child achieved an accurate symbol and was reinforced for correct responses (social reinforcement) before a new task (word) was given.
4. Meaning of words was developed simultaneously with encoding and decoding. This was done casually without demanding verbal performance from the children that would create for them tension or fear of failure, but it was done carefully and consistently.
5. Phrases and short sentences were developed almost from the beginning. Basic sentence structure was guided by questions so that the child who did not recall the correct form was reminded before he made an error.
6. Where irregular words were needed, the children and the teacher developed "memory gimmicks" to aid in their recall. These were kept to a minimum.
7. Children learned many rules about words. These were learned by consistent verbalizing of their application rather than by rote. (It appeared to the E.T. that being able to give a reason for the way a word was formed offered security to the child and he attacked the job of learning to handle letters and words as meaningful and

manageable. He usually started with the apparent feeling that reading and spelling were parts of a chaotic guessing game.)

In summary, the essential aspects of a multi-sensory approach are the simultaneous involvement of the auditory, visual, and kinesthetic modes of learning; the consistency of patterning; provision for step-by-step progression with consistent reinforcement and success.

Teacher-Child Interaction

Teacher involvement with the children, rather than child-machine or child-book-machine, was seen by E.T. as a major strength of this approach. Allowing the S.L.D. child to make uncorrected errors in word identification is damaging to the child, as has been pointed out by Bryant (3:7).

Length of Periods

Many meaningful changes of activity are essential for success with S.L.D. children who are hyperactive. At the beginning of the school term, the length of any activity was adjusted to meet the needs of the most immature in the group--the theory being to change the activity while the activity remained a successful experience. The length of work periods was gradually increased so that the periods coincided quite well with the lengths of time allotted during a normal schedule--twenty or thirty minutes for the younger children and up to forty minutes for the older children.

Recesses were coordinated with those of the peer groups in the regular classes to encourage social interaction.

Methods of Combating Tension

Physical exercises: Physical exercises designed to develop coordination, balance, laterality, and to improve body image were used as "breaks" between more sedentary activities. Kephart (23) and Paul Smith (31) were sources of direction for activities.

Freedom within structure: A great deal of freedom of movement was allowed within the framework of strict recognition of the rights and needs of others. For example, children were allowed to get drinks, sharpen pencils, choose materials, or find a corner to work alone or with a friend without seeking teacher permission as long as the movements were not disruptive. Arrangements were made so that certain extremely tense children might go outside and run around the building to release tension and then quietly return to work. As the children progressed in the program, they were given choices of activities or allowed to move into alternative activities during a given work period. Structure was maintained by clearly designating those activities which were acceptable.

Expanding Self Reliance

Modified performance contracting was used for the older children preparing for junior high school when they had reached a level

of work and social maturity allowing self motivation and self control.

Audiovisual

A language master, record player, tape recorder, and film strip projector were used intermittently to add depth and interest to activities. It should be noted, however, that most professional tapes prepared to aid remedial students are too fast, too "babyish," or not sufficiently stimulating to be worthwhile for the older S.L.D. child. Tapes prepared by the E.T. included stories read aloud for "read-along" activity, short poems or jingles to be memorized (stretching memory span and establishing word patterns), lessons in science or social studies content areas, descriptive paragraphs to be illustrated, songs to be sung, and rhythms to be tapped. Individual spelling lists of problem words for the older children were put on tape for analysis, practice, and pre- and posttesting.

Words needed for content areas, such as magnet, magnetic field, attract, repel, etc., were put on language master cards and children were encouraged to work individually or in groups on recognition and pronunciation. (Pronunciation was often a greater problem than recognition for many of the children when the vocabulary was not part of their normal speaking vocabulary.)

Oral Reading

Group activities: Oral reading at first was a group activity. Social studies, science, or literature material was utilized. Film strips were shown and the captions read orally in unison with the teacher. The children helped spell the words, using their developing linguistic knowledge, while the teacher prepared charts to tell their ideas about a picture or series of pictures or events. Unfamiliar phonemes were contributed by the teacher before the word was attempted. These stories were re-read in unison and then individually as a child volunteered. Poems were also read in this way.

Oral Practice by Helping Each Other

Groups of two or more children who read aloud to each other or teamed on flash card drill to develop instant recognition of words were developed. At first an "advanced" child helped a less-advanced child. Later, as confidence grew, groups were formed based on reading levels and each helped the others.

Content Areas

Second grade science and social studies books were used as stimulus material for discussion. Series were chosen where photographs or illustrations centered on content rather than characters. The children "read" the material, each child contributing a line or two. Thus a beginning vocabulary for content was built while skills of

description, sorting, identifying, categorizing, recognizing relationships, relating the known to the unknown, questioning, testing hypotheses, associating events unrelated in time and space, establishing continuums of time and space, etc., were being developed without reading failure to interfere with learning. Discussions were initiated by the reading and the illustrations, but ranged as far as the children's interests and backgrounds would allow. A wide range of abilities, therefore, were accommodated.

Basal Readers

The failure of common remedial approaches with the children in the class seemed to point to the need for a carefully controlled vocabulary. This decision seemed also to be supported by the reiteration by many authorities of the need of S.L.D. children for "over-learning." Kephart (22:48-51) had pointed to the need for many, many presentations of the same task to be mastered, the presentations to be varied to aid the child in generalization.

Therefore, the decision was made to guide each child through the appropriate levels of the Ginn reading series. The choice was based on the uncomplicated sentence structure and the relatively high interest level of this series. Other series of comparable grade placement and interest generally utilize more involved sentence structure which placed an unreasonable burden upon the S.L.D. child by demanding

that he sort out and hold complicated thought relationships while attacking problems of word recognition and word meaning.

When a child completed a basal level in Ginn, a conference was held with the child and the teacher and child together arrived at a decision as to whether the child would continue directly to the next level or would read a supplemental reader. In most cases the children chose a supplemental reader--usually either a Houghton Mifflin or a Lippincott reader one full grade level below the just-completed Ginn reader.

Silent Reading

Silent reading was encouraged only after the child developed a high degree of success with the basic Dolch list and oral reading at the level being developed. Success with oral reading was measured for this purpose by the child's ability to correctly decode at whatever speed was comfortable to the child. The concern here was that the child should not be making repeated mistakes in word-calling while reading silently, giving recognition to the research which indicated that silent reading involves mental word-calling, and for S.L.D. children, a high degree of sub-vocal word-calling (35:1083). Errors at this sub-vocal level need to be eliminated, as Bryant has emphasized (3:3-8).

Work Sheets for Vocabulary and Comprehension

Work sheets of the usual type to check comprehension, word meaning, etc., were single sheets chosen carefully for control of new concepts and uncluttered presentation. For those children exhibiting marked degrees of strephosymbolia and dissociation, work sheets were chosen at least two reading levels below that at which the child could operate in oral reading.

Typing and Spelling

Equipment: I.B.M. Selectric typewriters were made available to the class. Children, in groups of four or five, were introduced to typing as soon as they had become accustomed to the class routines. Selectrics were specifically chosen for the S.L.D class because of the type ball which eliminated problems of jammed keys and attendant frustrations for those children who had extreme difficulty controlling their fingers.

Objectives for Typing: The teacher's objectives in including typing in the curriculum were threefold:

1. To stimulate and maintain correct and immediate sight-sound relationships;
2. To establish sequential patterns to the point of automatic encoding; and
3. To provide a high-interest tool that, hopefully, would have an ego-building factor.

Correct fingering was demanded in the typing so the tactile experience of typing a word was constant. Bryant (3) and Bannatyne (1:196) have emphasized the importance of repetition and "overlearning" for the S.L.D. child. Typing a word was a new and relatively painless way to repeat a word pattern.

Good typing posture and hand placement were emphasized as a goal for each child during typing periods. However, for those children having particular difficulty in finger control, increasing approximations to correct techniques were encouraged. The typewriter was viewed as an instrument for success and was not allowed to become another problem by over-emphasis on technique.

Procedures: During the first semester of the 1969-70 school year, each group of children spent approximately thirty minutes daily in teacher-directed typing which included typing skill development exercises and practice on words chosen for a particular construction, i.e., ar words, tion endings, etc. During the second semester, after class reorganization, this was cut to twice weekly

Those children assigned to the homeroom of the E.T. were allowed to spend varying periods of time on their own initiative practicing their individual spelling words at the typewriter. They averaged approximately an hour and a half a week at this activity.

In developing the typing program, the E.T. and the children received many hours of help and direction from the coordinator of

Business Education for the Kent Public Schools, Mr. Harold Schulz.

The limited time available for typing after the second semester program changes made it impossible for the instructing team to properly develop and evaluate the modifications of commercial typing techniques that would prove most appropriate to the needs of an S.L.D. class. However, it became evident to Mr. Schulz and the E.T. that the time needed for the development of typing as a vocational tool--which demanded strict control of techniques--simply was not available in the curriculum being presented. Equally evident from the improvement in spelling and word recognition test scores was the value of typing as a tool to establish the awareness of detail in the written word, which is imperative for the S.L.D. child.

The principal use of the typewriters was for spelling. A spelling word to be mastered was written in manuscript very carefully by the teacher on a 3 x 5 card. The child placed the card on the typewriter (it sat easily above the top row of keys without interfering with the typing operation). Following the pattern on the card, the child said the word to himself and then said each sound as he typed the letter, or letters, composing the sound. As the pattern of a word became more automatic, the procedure was shortened to look, say the word, and type. The child was helped to understand the relationship between the procedure he was asked to follow and his own learning

system. He made the decision as to when his mastery of the word was sufficient to short-cut the practice procedure.

Children who were more advanced were allowed to use the typewriters to copy poems, or their own original stories or reports.

It seems reasonable to believe that much more could have been done had the physical conditions been more favorable during the second year covered by the study. This point will be developed in Chapter 4.

Spelling Control

The Ayers spelling list was used to begin the spelling program because it provided a grade level progression of words and had already been used by Spalding (32) as part of a multi-sensory and strongly structured approach. It was found, however, that a much wider base and slower progression was needed for most of the children if they were to become sufficiently familiar with similar word patterns to allow them to generalize skills and maintain vocabulary. The E.T., therefore, developed a very detailed list of spelling words for grades two through six. Words were presented in an order to coincide with and follow--never precede--the presentation of phonemes and/or spelling rules that could be applied to make the word fit into a logical pattern. Exceptions were held to a minimum, i.e., of, one, two, etc.

A careful control was maintained to review over a long time span phonemes which had been taught. This was done by the systematic insertion of new forms of familiar patterns into the later spelling lessons

as vocabulary increased. Thus, for example, new three-letter words having a single vowel were inserted into the sequence after the initial group of most common pre-primer words with that pattern had been taught.

A pretest of 25 or 50 words (depending on the writing capabilities of the child or group being tested) was administered. The child's individual spelling list (dittoed copies of the master list) was used to record correct responses and the details of incorrect responses so that the pattern of the child's errors was visible. Typing cards for the words he needed to learn were made for each child. Errors common to several in a group were noted for inclusion in the dictation writing sessions.

At a convenient time, but at least two weeks after the last intensive drill on the words, the child, either individually or as part of a group, was retested. Words correct were noted on the child's progress chart (provided as part of the spelling booklet) and errors recorded. The words missed were again presented for dictation, as a part of a language activity, for typing drill, and for oral practice with another student.

The E.T.'s experience supports Delacato's contention (7:11) that teaching a spelling list, having the children take the words home and memorize them for a test on Friday and considering any that might

happen to be correct on the test as "learned," was a waste of time and effort and wholly unrealistic.

Manuscript or Cursive Writing

Most of the group had been instructed in cursive writing prior to their admittance into the S.L.D. class. The decision was made to require all of the children to write in manuscript during all spelling and dictation activities until a third grade reading level was reached by the child. When a child could read with comprehension at a third grade level, he was then given instruction, if he appeared to need direction, in cursive writing. He was allowed to use whichever method he chose for any writing activities from that point on.

The rationale for the decision was based on two points: (1) the need to keep the visual cues the child received from the written word as close as possible to those he received from the printed words in his text, and (2) the fact that reading cursive writing was still another skill which the children would have to acquire in addition to reading print. That reading cursive writing was a new skill was evidenced by the fact that these children had difficulty reading even the slightest changes of letter formation. A child normally has little difficulty reading any word that approximates in form the correct pattern. Many S.L.D. children see each approximation as a distinctly different and unrecognizable symbol.

Slingerland (30:13) reported that the decision to teach manuscript writing to S.L.D. children was based on similar considerations, as did Dr. N. Dale Bryant in a personal comment to the S.T. Kephart (in a speech delivered to an A.C.E.C. convention in Seattle, Washington) strongly advanced the idea that all writing by S.L.D. children should be in cursive form. The rationale he presented was in concurrence with Gillingham, as quoted by Slingerland, ". . . because cursive letter forms flow more rhythmically from letter to letter and are less apt to be reversed" (30:13). Kephart also emphasized that cursive writing gave the child the feel of the word as a whole--as a gestalt--rather than as a series of individual disconnected letters.

One boy in the group under study exhibited writing behavior characteristic of extreme agraphia. He seemed completely unable to hold the sequence of letters for spelling even the simplest words. Considering the remarks of Dr. Kephart, the E.T. wrote two words in large cursive letters, one on each side of a sheet of penmanship paper, and asked him to trace a word (following the say-sound out-spell procedure described above for typing), and then write it in cursive writing by copying the pattern. This procedure seemed to trigger the recognition that the letters were parts of a whole, the word, and a spelling pattern was quickly established. The student, however, chose to return to manuscript writing but began making gains in spelling. It

would have been desirable to study and experiment further to establish the more effective approach for this child.

INDIVIDUAL APPROACHES

Dissociation As A Problem

The classroom teacher or remedial reading teacher may handle a great number of youngsters without being aware of the S.L.D. child with extreme dissociation problems. As Engleman and associates (2:443) have relevantly pointed out, being able to give a technical name for a neurological problem does not tell the teacher what to do about it. If, however, the teacher has sought information about neurological involvement in learning disabilities, she will have discovered some things not to do, and some ways not to act in these extremely frustrating situations. It may also give her courage to experiment with different approaches. The case of John illustrates this point.

John had as much trouble reading orally from a second grade book as from a fifth grade book after three years of work with the E.T. In his own evaluation, "It isn't the big words I have trouble with; it's the little ones." John came to the E.T. from a group just completing a year of intensive individual and group work based primarily on the Gillingham-Stillman methodology, including cursive writing. Rhythms, coordination, and sensory-motor training had been provided. In spite of an apparently average ability to verbalize, and above-average

intelligence, he seemed to hit a plateau at an early pre-primer stage and there he stayed, academically. In reading each word was attacked anew as if it were a totally unfamiliar collection of individual letters.

In the spring of John's fourth year in public school (his first full year with the E.T.), the first apparent breakthrough came. During social studies periods children volunteered to read aloud. The only requirement for those who did not wish to read aloud was that they follow with a finger under each word as it was read. This was done to provide one more way for the child to see the word simultaneously with hearing it pronounced correctly--seeking the redundancy Kephart (22: 66-72) has pointed out as necessary for many S.L.D. children. John always asked for a turn to read and laboriously managed a line or two. However, the E.T. noted that when another child stumbled on a particularly difficult word, it was John who instantly and automatically supplied the correct word. When this happened too often to be "chance," the E.T. began calling his successes to John's attention as an ego-bolster. John was not asked to supply a word, but was reinforced when he did. Thus, pressure to perform was kept to a minimum.

A volunteer helper who often came to work with John was asked to read aloud in unison with John, thus cutting the tension John felt and allowing for a smooth flow of words. This she did, and John began to progress.

Other signs of neurological involvement: John could spell aloud almost any word he had studied, but there was no connection, it seemed, between the way he verbalized a spelling and the way he wrote the same word. Apparently, the stimulus "word to be spelled" triggered a correct motor response from his mouth and tongue, but failed to trigger a correct motor response from his fingers. In reverse, the sight of a word failed to trigger a pronunciation of the word, but hearing the teacher spell (not sound) the same word often triggered immediate pronunciation.

Dick, a sensitive and intelligent boy, had even more pronounced problems. An example illustrates his difficulty. Asked to spell the word "what," he spelled verbally w/h/a/t as he simultaneously wrote t/h/i/s. (The E.T. attempted to verbalize one spelling while writing a different one, and found it a very difficult task for the hand tends to write what the brain thinks and the mouth speaks.)

Dealing with expressive aphasia: It is unnerving to a teacher to encounter for the first time a child with expressive aphasia. Ted was such a child. Ted would write a phrase from dictation without a mistake and suddenly be unable to read it back. For example, he might write "a new book" and read back "a new pencil." When asked to show the teacher a book (teacher pointing to the word Ted had written and not pronouncing it), he would correctly show her a book. He heard, wrote, comprehended, but suddenly could not respond with the appropriate word.

Relationship of Deficits in Special Perception to Class Management

Aggressive behavior among a group of S.L.D. children is markedly more apparent than among like numbers of "normal" children from like backgrounds. Early attempts to deal with this were by such techniques as separation in space, group discussions of acceptable social conduct, close control of aggressive behavior, and praise for self-control. While each technique was useful, the most successful for some children was that of helping them verbalize how they perceived the action or speech of the individual against whom the aggression was directed. It soon became evident that better relationships developed as children learned to check their perceptions. An immediate aggressive response was often still made to poorly perceived social stimuli, but long chains of aggressive interaction were greatly reduced in number and intensity. The rationale for this approach appears in the discussion of imagery by Johnson and Myklebust (20:33-34).

Dangers of Overloading

Data will show that two students who made the greatest apparent gains during the first year of the study showed the greatest losses over the summer vacation. By the end of the second year their test scores were only slightly higher than their scores at the end of the previous year. Their achievement appeared to be more stable by the end of the second year, but this could not be verified without a follow-up test which was not available for this study. Verbal reports by the

present teacher of one of the boys who remained in the area in another S.L.D. class indicated that he had maintained his achievement into the third year and continued to progress.

Searching the literature for a key to the regression at the beginning of the second year, the E.T. noted that Johnson and Myklebust (20:30-32) and Bryant (3:6-7) called attention to the dangers of overloading. The emphasis of their remarks may be summarized as a directive to exercise great care not to ask the S.L.D. child to process too much different information at one time.

As the two boys in question were highly self-motivated and apparently made extremely fast gains during the first year, it seemed appropriate to consider the possibility that an overload of accumulated but not completely internalized information caused a breakdown of integration. As a result, re-learning and stabilization of skills became necessary.

Other factors related to learning environment appear to have been operative in the failure of the two students in question to make significant gains during the second year, relative to their first year gains. These will be discussed in Chapter 4.

Chapter 4

INFLUENCES OF ENVIRONMENTAL CHANGE

Johnson and Myklebust (20:300-302) and Cruickshank (4:14-15) have emphasized the effects of physical environment on S.L.D. children showing specifically hyperactivity and distractability. Some educators have advocated the elimination of Special Education classes entirely, taking the contrary view that all children should be housed together heterogeneously with the only adaptations to individual needs being in the area of curriculum. As both points of view were represented among those persons responsible for the program under study, both approaches were implemented. The following describes some of the behavior of the children and the changes in program relative to differing environments.

INFLUENCES OF PHYSICAL ENVIRONMENT

First Year, 1969-70

During the first year of the two-year period covered by this study, the classes made up of all children in the district identified as S.L.D. were housed in an older building having adequate facilities. The 10- to 12-year-olds occupied a portable classroom, as did the

primary age group. The 8- to 10-year-olds with the E.T. occupied a room previously occupied by a Kindergarten class but situated in a fourth grade classroom complex. An electric outlet strip was installed so that the typewriters could be grouped across one end. Study desks were grouped across the opposite end and there was adequate room for small groups to work on projects without undue interference with other activities.

Second Year, 1970-71

The second year an entirely different arrangement prevailed. The district was divided into two high school service areas. A fourth S.L.D. class was established and two classes were assigned to each service area. The E.T. moved with a group of 9- to 12-year-olds into a new open concept building. The building was designed with four pods opening onto a general learning center. The original plans called for the two S.L.D. classes (a primary class which included 5- through 8-year-olds and the experimental class of 9- through 12-year-olds) to occupy half of one pod and to be completely separated by a wall from the Kindergarten, for which the other half of the pod was especially designed. A somewhat pie-shaped area between the carpeted work areas of the S.L.D. portion of the pod was tiled to provide a hard-surface play area. Activities taking place on the tile produced more noise than the same activities taking place on the carpeted area.

The wall that was to have divided the Kindergarten and S.L.D. areas was not in place when school began. Instead, the Kindergarten was combined with first and second grades in an adjoining pod. The two S.L.D. teachers were directed to use the entire area freely.

The behavior of the S.L.D. children and teachers indicated that they were pleased with their new facility. However, many of the children spoke of feeling uncomfortable; "We have to get used to so much room" was a remark reiterated by several children. They sought corners to work in. Some would find "caves" under the extra tables stored in one end of the unused area. Most of the group seemingly adjusted to the extra space after approximately two weeks, but some continued to seek out corners and walls.

Another problem quickly became apparent. Unexpected or "different" movements and activities taking place among the primary children kept the older ones distracted, and vice versa. It appeared to both teachers that it was the sight more than the sounds of other activities that the children found most distracting. Movable furniture was then utilized to form a sight barricade between the groups. A portion of the former Kindergarten area was likewise "walled off" by furniture to provide a place for the small children to have music, rhythms, and active games without disturbing the older youngsters. The environment thus provided appeared to allow the children to attend

to their tasks without undue distraction. A high degree of involvement in learning became evident.

As it was impractical to leave such a large area relatively unused, other regular classes began using the free space in the Kindergarten area for art, crafts, and other activities. The original problem of distraction by sights and sound was intensified. Behaviors on the part of S.L.D. children that appeared to result from this increased source of stimulation were increased purposeless movement, increased antagonistic acts, increased negative reactions to social acts of others, generally increased irritability, and decreased achievement. Two girls and two boys said they were not disturbed by the movements of others, and their behavior so indicated.

An attempt was made to keep S.L.D. classes to a maximum of 12 children to one teacher. However, as the result of increased awareness of S.L.D. symptomology on the part of teachers, administrators, and parents, the number of cases referred for special classes increased. Increases in class loads brought about the administrative decision to place a third teacher in the area assigned to the S.L.D. classes. Seven children were moved from the E.T. and four boys (10 to 12 years old) were added. The third teacher, with twelve children, was housed on the tile area between the two carpeted areas. Because of differences in teaching background and philosophy, the

decision was made not to "team." Instead, three completely independent groups were in operation.

A wall was placed between the S.L.D. area and the former Kindergarten area just prior to the addition of the third class, and what had been very adequate room suddenly became insufficient to allow any withdrawal for the child over-stimulated by the proximity of persons or activities.

For reasons that will be discussed more fully under the heading of philosophical differences, the E.T and those children in her group moved into the fifth-sixth grade pod of the regular class area.

Typewriters were stored for lack of a suitable place for their use.

Curriculum emphasis was on individual research as much as possible.

For those boys showing the most emotional instability prior to these changes, behaviors became increasingly unstable. Nearly all of the boys evidenced their confusion and discomfort by their expressions of dislike for their environment and the oft repeated wish for walls or a return to the old school with closed classrooms. The time spent staring into space increased noticeably for some of those children who had demonstrated excellent work habits and self-motivation under the conditions of a self-contained classroom. Mutual-help groups turned into discussions of the activities going on around them and their reactions to those activities. Efforts to incorporate individual S.L.D. students into the activities of other non-S.L.D. groups were

unsuccessful, primarily because the S.L.D. children needed academic guidance beyond that available to them outside their home group.

EFFECTS OF PHILOSOPHICAL DIFFERENCES AMONG STAFF

During the first year covered by this study, both the physical setting and philosophical base for the class were to a large degree supportive of the goals of the E.T. During the second year, in addition to physical changes in environment as discussed above, diverse and incompatible educational philosophies were also being implemented concurrently. Some teachers were attempting strict order and control to develop skills and learning habits as generally associated with a high standard for traditional classes. Extreme permissiveness was practiced by other teachers who espoused the theory that children should decide for themselves what, where, when, and how to learn. As the staff failed to reconcile their varied philosophies into a school-wide philosophy, many S.L.D. children showed signs of confusion by their behaviors. Those who had been involved for a period of time with the E.T. had grown to recognize their own need for structure and they generally supported maintenance of standards of conduct within the structure to which they were accustomed. New youngsters found the adjustment much more difficult.

Johnson and Myklebust (20:34-47) have emphasized the difficulty many S.L.D. children have in establishing consistent means

of identifying the social purposes and emotions of others in interpersonal relationships. The behaviors of people--children and adults--operating under different value systems while supposedly parts of the same whole (the school) were constantly fluctuating and were extremely tension-producing for almost all of the older S.L.D. children. They were aware of their own social image and were trying to establish themselves as adequate social beings. To do that, they sought models and found little consistency to help them identify stable models.

Chapter 5

TESTING: PROBLEMS AND RESULTS

The structure of the program under study demanded continuous informal testing procedures. However, in order to substantiate long term gains, if any, it seemed advisable to provide for a regular program of standardized testing. Therefore, the Wide Range Achievement Test (WRAT) developed by Jastak and associates, was administered at the beginning of the school year, again at mid-year of 1969-70, and during the final two weeks of the school term. During 1970-71 this test was given in September and again in June. The scores achieved were not considered valid indicators of overall grade level achievement, but they were valid instruments for measuring the growth of each child in the skills of decoding and spelling retention. It was the purpose of the E.T. to test those skills that were being emphasized in the developmental program. Because of the problems most S.L.D. children have in generalizing and the great amount of overlearning necessary for them to maintain a skill, it appeared that familiarity with the test had little, if any, significance relative to test scores.

In the spring of 1969-70, all children in the district were tested for district-wide program evaluation. For this purpose the

Stanford Achievement Tests were chosen for the primary grades. Primary Battery I, Form X, and Primary Battery II, Form X, were administered to the S.L.D. class by the E.T. It was anticipated that scores on the Stanford Achievement Test would be significantly lower than scores on the WRAT. The generalization of reading skills and the integration of language necessary for comprehension are almost simultaneous with the development of decoding and encoding skills for the normal child, against whose learning behaviors the achievement tests are standardized. These integrative skills must be separately and laboriously developed for the S.L.D. child. It should also be recalled that a very heavy overlay of emotional reactions of fear and frustration are inherent in standardized testing for S.L.D. children who have already experienced their inability to cope with this type of testing.

In the fall of the 1970-71 school term the decision was made to administer the Gates-McKillop Reading Diagnostic Test, Form 1, to all members of the class, and a follow-up with Form 2 of the same test was planned for the spring. Because this test is administered individually, it was felt that some of the emotional trauma associated with group testing could be minimized. The diagnostic character of the test made it desirable. Also, it was deemed desirable to have an instrument that would measure growth in the areas of general comprehension and reading time.

As a result of the changes in class composition and the time available to teacher and students for individual interaction, only those children who had been in the E.T.'s class throughout the year were tested in May of 1971. Test results are presented in Tables 1 through 4.

Table 1 shows the growth in decoding skills and spelling registered during the 1969-70 school year.

Table 2 presents the scores on a Stanford Achievement Test administered in the spring. Two items that seem noteworthy are (1) the relatively high spelling scores compared to the scores in word meaning and paragraph meaning, and (2) the fact that the reading scores here are generally lower than those on the Gates-McKillop given the following fall.

Table 3 gives the scores on Wide Range Achievement Tests that were given at the beginning and again at the end of the 1970-71 school year. The Primary Form I, which had been given the preceding year, was used in the fall. In the spring, the Intermediate Form II was used.

Table 4 presents the scores on the Gates-McKillop Tests. This test appears to reflect the general growth in ability to handle more complicated sentence structures and integrate associated ideas.

Letters are used to identify the children, the same letter signifying a child throughout, so that the relationship of different tests to one child's growth can be determined.

Table 1

Results of Wide Range Achievement Test, 1969-1970

Student	Age 9-1-69	IQ*	Sept. 1969		Feb. 1970		Gain		June 1970		Gain for Year	
			Read.	Spell.	Read.	Spell.	Read.	Spell.	Read.	Spell.	Read.	Spell.
A	9-5	87	1.5	1.2	1.7	2.0	.2	.8	2.8	2.3	1.3	1.1
B	9-1	96	1.8	2.0	2.1	2.9	.3	.9	3.5	3.7	1.6	1.7
C	9-2	--	2.5	2.6	3.8	3.5	1.3	.9	5.5	5.5	3.0	2.9
D	9-6	93	1.8	1.4	2.1	2.9	.3	1.5	3.8	3.5	2.0	2.1
E	9-1	101	1.5	1.4	2.3	2.9	.7	1.4	4.4	3.7	2.9	2.3
F	9-7	--	1.4	1.7	2.6	2.3	1.2	.6	4.4	3.0	3.0	1.3
G	9-3	90	2.9	2.2	3.9	3.9	1.0	1.7	5.3	7.2	2.4	5.0
H	9-8	101	1.5	1.6	2.5	3.0	1.0	1.4	5.7	4.2	4.2	2.6
I	10-7	97	1.6	2.0	3.0	3.7	1.4	1.7	4.5	3.9	2.9	1.9
J	10-7	114	--	--	3.0	3.5	--	--	6.1	4.2	3.1	.7
K	11-7	97	--	--	2.8	3.0	--	--	5.0	4.5	2.2	1.5

* IQ furnished E.T. with roster. Validity unknown.

Table 2

Stanford Achievement Test, May, 1970

Student	Word Mean.	Paragraph Mean.	Science Soc. St.	Spelling	Word Study	Arith. Comp.	Arith. Concepts
B	2.6	2.0	2.7	3.8	2.1	1.6	1.6
C	2.8	2.5	4.8	3.5	5.0	2.7	3.2
D	1.7	1.9	3.8	2.8	2.0	3.1	2.3
G	3.0	2.7	1.6	4.6	3.2	2.4	2.3
H	2.7	2.6	4.8	3.4	2.4	2.5	2.6
I	1.6	2.0	4.3	3.0	2.2	1.9	2.3
J	2.8	3.0	5.5	3.4	2.8	3.8	3.8
K	2.8	3.8	6.0	3.6	4.7	4.5	4.5
O*	2.3	2.0	4.6	2.4	2.7	3.2	2.3

Stanford Achievement Primary I

	Word Mean.	Paragraph Mean.	Voc.	Spelling	Word Study	Math.
A	1.8	1.4	4.8	1.8	--	--
E	2.0	1.8	3.6	2.2	1.9	2.8
F	1.7	1.6	4.4	2.3	2.1	2.6

*No other tests for this boy who was almost non-operative at beginning of year.

Table 3

Results of Wide Range Achievement Tests, 1970-71

Student	Age 9-1-71	IQ	September 1970		June 1971		Growth over 1 yr per.	
			Read.	Spell.	Read.	Spell.	Read.	Spell.
E	10-1	101	2.4	3.3	6.2	4.3	3.8	1.0
F	10-7	--	2.8	3.3	6.8	4.3	4.0	1.0
H	10-8	101	3.2	3.3	--	4.3	--	1.0
J	11-7	114	3.2	3.7	6.3	4.5	3.1	.8
L	12-5	97	3.5	3.0	7.5	5.8	4.0	2.8
M	11-4	97	2.6	3.3	6.5	6.3	3.9	3.0
N	12-4	96	4.2	4.0	8.9	6.3	4.7	2.3

Note: It should be noted that there is approximately a 2.0 loss from the June, 1970, to the September, 1970, testing for reading scores. No such loss is evident in spelling scores.

Table 4

Gates-McKillop Reading Diagnostic Tests

Students	Form 1--October, 1970				Form 2--May, 1971				Oral Reading Gain
	Words Flash	Words Untimed	Phrases Flash	Oral Read. Total	Words Flash	Words Untimed	Phrases Flash	Oral Read. Total	
E	2.7	3.1	3.0	2.3	3.6	4.0	4.2	3.8	1.5
F	2.4	2.7	1.5	2.3	3.6	4.3	4.0	4.2	1.9
H	2.4	3.1	2.0	2.4	3.8	4.6	5.1	4.0	1.6
I	2.2	3.1	1.6	2.4	--	--	--	--	--
J	2.9	3.2	3.0	2.4	3.7	5.6	4.6	3.5	1.1
L	3.3	3.8	4.6	3.4	4.2	5.7	5.1	4.7	1.3
M	2.7	3.3	2.5	2.9	3.6	3.8	3.6	4.8	1.9
N	4.0	4.4	P.S.*	4.2	5.9	6.5	P.S.	6.5	2.3

* Perfect Score

Chapter 6

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

SUMMARY

This study described a program for S.L.D. children which began with the hypothesis that a specific learning disability, whether neurologically or emotionally based, requires special teaching techniques; that clusters of symptomology exist allowing grouping; and that individual symptomology may require unique procedures. It was further hypothesized that the teacher of S.L.D. children should have sufficient background knowledge in related disciplines to understand the learning behaviors of the students in order to adjust tasks, environment, and control to meet their needs.

S.L.D. students eight to twelve years old took part in the program. Emphasis was on the language development and communication skills of the youngsters, but a complete curriculum was provided. A multi-sensory approach to reading with strict programming of materials to control sequence and load was attempted. Typewriters were utilized as tools to establish sequencing and encourage repeated patterning for automatic recall.

The program was in operation for one year in the traditional facility of an older school building. The second year it operated in varying pupil-space ratios in an open-concept building. Changes in student behavior and attitudes related to changes in physical environment are reported.

CONCLUSIONS

There are no magic methods for teaching children with learning disabilities, but certain conclusions can be drawn from the program described in this study:

1. Motivation is essential to learning. However, for many children a learning system that circumvents their functional disabilities is the primary requirement.

2. The building of a positive self-image for S.L.D. children requires continued individual and group effort. Therefore, the teacher should be a person who can become personally involved in stable interpersonal relationships. The teacher should be cognizant of group therapy techniques and capable of handling meaningful and nonthreatening group dialogue. It should be stressed, however, that in-depth therapy must be left to the professionals in the fields of psychology and psychiatry, for therapy can be a very dangerous tool when improperly used by one inadequately trained. The services of an interdisciplinary team

should be available, therefore, for those children whose behaviors indicate problems of personality integration.

3. The physical environment should be adapted to the individual needs of the children, just as their curriculum should be.

4. Structure and step-by-step programming, both for academic achievement and social adjustment, are essential to maximum growth for most S.L.D. children. Social behaviors to be programmed include decision making, recognition of social purposes and reactions of others, taking responsibility for one's own actions, and self-motivation.

5. Educational leaders should exercise extreme caution in evaluating methods and theories advanced by professionals with differing backgrounds.

6. Colleges and universities, with some exceptions, are not prepared to provide the in-depth study of child development and problems of exceptional children that the teacher needs in order to teach the child rather than teach the curriculum.

7. The typewriter appears to be a meaningful tool for S.L.D. children. More controlled studies should be made of their effectiveness.

8. Creativity in teaching S.L.D. children is as essential as it is in the teaching of the gifted.

9. The labeling of a child as S.L.D. is not an excuse not to teach him. It is a way to direct him into channels that provide for his very special learning needs.

RECOMMENDATIONS

Based upon the experiences related in this study, it would seem that a number of steps should be taken to clarify the purposes of the State of Washington, and of education, relative to the education of S.L.D. children. Therefore, the following recommendations are made.

1. The State Department of Public Instruction should assemble the most knowledgeable representatives of the professions most involved in identification and management of the S.L.D. child and, with their guidance, establish definite guidelines for qualified programs. These should be based on the quality of support required to provide excellence in education, and in physiological and psychological remediation.

2. Studies should be developed and implemented to determine the following:

- a. How many children in the state are S.L.D.?
- b. What is the breakdown of these numbers as to age group and economic background?
- c. What percentage of those recognized as having some S.L.D. symptomology could benefit from modified programs and reduced class size in their present schools?

- d. What percentage exhibit degrees of dysfunction that require intensive specialized interdiscipline programming?
- e. What should be the minimal requirements for teachers for each type (modified program and intensive restructuring)?
- f. To what degree are our teacher training institutions providing or able to provide the types of training required?
- g. How can school districts finance in-service training for their most qualified personnel and supply the physical setting required for optimum programs?

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