

A STUDY TO ASSESS PRACTICAL APPLICATION
OF KNOWLEDGE OF IDENTIFICATION OF
LEARNING DISABLED CHILDREN BY
ELEMENTARY PUBLIC SCHOOL
TEACHERS

A THESIS
SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
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We hereby recommend that the Thesis prepared under
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CHAPTER I

THE PROBLEM AND ITS SETTING

The Statement of the Problem

Public Law 94-142 mandates the opportunity for free and appropriate education to every child in the least restrictive environment. This referent includes the opportunity for staff enrichment and means for early identification of handicapping conditions. Through these mandates, each child may obtain optimal educational interventions for his/her particular handicapping condition.

Ayres (1972) supports the importance of early identification of the learning disabled child by qualified personnel. Ayres noted further that early intervention takes advantage of the plasticity of a young nervous system. Plasticity often diminishes upon maturing. By the end of the first decade of life, neurological organization is almost complete.

The significant number of learning disabled children in the elementary public schools seems to underscore the importance of identification. Ayres (1979) stated that between five to ten percent of all children have enough problems with sensory integration to cause them to exhibit academic or behavioral problems. Myklebust (1969) concluded after research that seven and one-half percent of his study groups were learning disabled. Faas (1980) remarked that

a review of literature yielded a range of learning dysfunction from two to twenty percent of studied populations. Although variations in the range could be attributed to the research type and sampling, Faas stated that the important aspects to consider are the validity and magnitude of current learning disability problems. He felt that it is most important to help teachers identify and provide assistance for all learning disabled children. Identification of learning disabled students is not an easy task because many of these children seem normal in every way and often possess superior intelligence (Ayres, 1979).

Within the elementary public school setting many inservice programs are presented on early identification of learning disabled children. Published reports are not available regarding whether or not the students of the inservice retain the learning or put it into practical use. It is the charge of this thesis to test the practical application of learning.

The Subproblems

1. The first subproblem. The first subproblem is to construct an inservice program designed to give information to elementary public school teachers concerning identification of the learning disabled children.

2. The second subproblem. The second subproblem is to construct an evaluative tool which will measure practical

application of the materials presented in the inservice program.

3. The third subproblem. The third subproblem is to assess the practical knowledge possessed by teachers for identification of learning disabled children before presentation of the inservice program.

4. The fourth subproblem. The fourth subproblem is to assess the practical application of learning immediately following the inservice program.

The Hypothesis

There will be no significant gain in ability to identify learning disabled children following the inservice.

The Limitations

The study will be limited to all the elementary public school teachers in the Alvord and Chico School Districts of Wise County, in the State of Texas. Alvord will be the control group. Chico will be the experimental sample. The populations will not be randomly sampled.

Definition of Terms

Elementary Public School Teacher. An elementary public school teacher is any teacher or teacher assistant in the Alvord and Chico School District of Wise County, Texas, who instructs kindergarten through sixth-grade students.

Occupational Therapy. For this study, occupational therapy is a health-related profession, designed to identify

and remediate dysfunction of the learning disabled and developmentally disabled child.

Learning Disabled Child. According to the Texas Education Agency, by definition, a learning disabled child is a student who demonstrates a significant discrepancy between academic achievement and intellectual abilities in one or more of the areas of oral expression, listening comprehension, written expression, mathematics calculation, mathematics reasoning, or spelling; for whom it is determined that the discrepancy is not primarily the result of visual handicap, hearing impairment, mental retardation, emotional disturbance or environmental culture or economic disadvantage; and for whom the inherent disability exists to a degree such that they cannot adequately be served in the regular classes without provision of special services.

A child may qualify as learning disabled by scoring at least one standard deviation below the mean on an individually administered achievement test in Reading, Math or Written Language. They may meet the eligibility criteria in one or more of these areas but only in whatever area they scored at least one standard deviation below the mean.

Inservice Program. For this study, the inservice program will be 1.5 hours. It will consist of a pretest, lecture, and posttest.

Methods of Identification. Methods of identification of the learning disabled child are one or more observations of impaired sensory integration resulting in:

1. hyperactive-distractible behavior
2. inappropriate affect and behavior
3. impaired muscle tone and coordination
4. impaired visual form and space perception
5. impaired auditory-language function.

Abbreviations

LD is the abbreviation for the term learning disabled.

OT is the abbreviation for occupational therapy.

EPS is the abbreviation for elementary public school.

EPST is the abbreviation for elementary public school teacher.

ANCOVA is the abbreviation for analysis of covariance.

EHA-PL 94-142 is the abbreviation for Education of the Handicapped Act, Public Law 94-142.

Assumptions

The first assumption. The first assumption is that there is a need to identify LD children in the EPS.

The second assumption. The second assumption is that there is a need for OT inservice in the EPS.

The third assumption. The third assumption is that there is a need to evaluate practical application of knowledge obtained from inservice programs.

The Importance of the Study

Very little research has been reported in the area of inservice programming for teachers which is aimed at early identification of LD children. These children have been frequently misunderstood. In many cases they are thought of as retarded, lazy, or just stupid. Because indiscriminant labeling can impart psychological implications of a negative nature, a practical knowledge of the symptoms of the potentially LD child is imperative.

Most teaching professionals do not look upon these children in such a harsh light. Many teachers voice frustration and inadequacies in dealing with the needs of the child who deviates from the expected norm.

Much research has been done on the importance of early intervention in the treatment of sensory integrative and developmentally based dysfunction. Logically, it is to the advantage of the intervening person and child to identify and treat as soon as possible.

Occupational therapists are trained to identify and remediate LD children in the school environment. These health professionals number very few in the EPS setting and are unable to make contact with every child. Knowledge concerning early identification should be disseminated to those individuals who have day-by-day contact with the large body of school-aged children. It is extremely important to

evaluate the effectiveness of the dissemination of this knowledge so that the best possible intervention is provided in a timely manner and so it is adjusted to the everchanging needs of the child.

CHAPTER II

THE REVIEW OF THE LITERATURE

An Historical Overview

Recent legislation and changing societal trends have given impetus to the need for OT services in educational settings across the country. The small number of therapists in educational settings are viewed as novel and unique.

In 1973, a survey by the American Occupational Therapy Association showed the 674 therapists were employed in schools (Mitchell and Lindsey, 1979). Another survey taken in 1977 showed that the number had increased to approximately 2000 (Mitchell and Lindsey, 1979).

The recent legislation which has been most significant in creating new jobs and roles for therapists was the 1975 Education for the Handicapped Act, Public Law 94-142. This law mandated the opportunity for free, appropriate education to every child in the least restrictive environment (U.S. Office of Education, 1977). In 1977, implementation of Part B of EHA-B, PL 94-142 provided clarification of previously undefined Federal requirements under the original law. These final regulations provided the means for early identification of handicapping conditions and the expansion of inservice training to include related service personnel.

The Transdisciplinary Approach

When entering the public school setting, which has been traditionally dominated by educators, both therapist and teacher should recognize that no one discipline can adequately serve the handicapped. EHA-B, 94-142 has focused national attention on the importance of a working partnership which delivers service along transdisciplinary lines (McCormick and Lee, 1979).

The term transdisciplinary refers to the process of many professions providing consultation or inservice to and in support of one implementor. This concept is not new; in the late 1960's there was strong emphasis on professional input to parents, who were considered the primary therapists (McCormick and Lee, 1979). Today, therapists in the public school systems are working within the parameters of the transdisciplinary model in order to assess children, give inservice education and consultation to the teachers. The teacher is considered the primary therapist and gains continuing assistance from representative professions (McCormick and Lee, 1979). The transdisciplinary approach not only serves the child but promotes interdisciplinary growth and collaboration. The consulting team members can broaden spheres of influence and effect programming to larger populations of children than one-to-one service would allow. The role of the teacher can certainly assist the consultant

to identify prospective clients thus facilitating service. Becker and Snider (1979) report that kindergarten and first-grade teachers are highly effective in accurately identifying educationally high-risk students but hesitate to make specific referrals to special programming due to unfamiliarity and inexperience with special services.

Many teachers are also hesitant to label and make judgments regarding their students for fear of societal and psychological stigma often associated with labels (Vance and Wallbrown, 1979). If one realizes that LD children are not categorized into stereotyped roles and that "cookbook" identification tools and rules cannot be used then an open-minded approach may follow. Smith and Scardina (1980) cautioned therapists to maintain the open-minded approach with teachers by not introducing "cookbook" checklists. Moreover, teachers should be given a general theoretical background of underlying LD problems and observable behaviors in the classroom. Teachers may only identify possible problems. Only a qualified therapist can apply appropriate evaluative tools and select the appropriate children for therapy.

The Learning Disabled Child

For purpose of this study the researcher has defined the LD child in accordance with the Texas Education Agency (see definition of terms). The literature supports this definition. The LD child is one with learning problems

which are unrelated to specific concrete handicapping conditions (Faas, 1980). Concrete handicapping conditions may be considered to be: mental retardation, organic deficit, primary effects of environmental deprivation and demonstrated discrepancy between potential and actual achievement (Kirk and Gallagher, 1979). In other words, the LD child may not be noticeably handicapped; he may demonstrate good potential and opportunity for learning and be unable to attain normal success in school because of unseen learning deficiencies (Myklebust, 1969).

Kirk and Gallagher (1979) discussed two specific categories of performance in which LD children tend to be deficient. The first category was labeled "academic performance" and included the classroom tasks of spelling, reading, arithmetic, auditory comprehension and verbal activities. The second category was labeled "developmental learning disabilities," concerned with: attention span, behavior, orientation skills, and basic auditory-language disorders. The authors considered the developmental learning tasks to be prerequisite to academic functioning. Ayres (1979) has compiled a list of end product behaviors which she considered also to be academic prerequisites. These behaviors reflect sensory-motor integration deficits and are likely to accompany LD. These end product behaviors are: (1) hyperactivity and distractibility, (2) inappropriate behaviors,

(3) auditory-language problems, (4) muscle tone and coordination deficits, and (5) visual form and space perception deficits.

Classroom Behaviors

For this study, Ayres (1979) end product observations will be utilized as means of identifying LD children. A description of each behavior, academic manifestations and general sensory integrative constructs will form the basis of the inservice program. Supportive literature follows.

Hyperactivity and distractibility have been noted to be particularly disruptive classroom behaviors (Ayres, 1979). This referent is characterized by the child who cannot sit still or filter out distractions. This child seems to be disturbed by normal classroom activities like rustling papers, sharpening of pencils or traffic in the hallway (Faas, 1980).

It has been theorized that the somatosensory system is responsible for regulation of attention. Deficits in the somatosensory system severely impair the ability to focus attention while filtering out the extraneous. This phenomenon has been linked to hyperactive-distractible behavior (Ayres, 1972, 1979). A child's central nervous system may become over-loaded if it is unable to filter, causing him to react to classroom stimuli in a haphazard and often inappropriate manner.

Some children even experience somatosensory stimuli in a distorted way causing them to appear tactually defensive (Feingold, 1975). These children are so bombarded by environmental stimuli that they react to all gradations of touch in alarm or fear.

In the classroom situation the teacher should be aware of the students': (1) attention span, (2) cooperation during touch activities, (3) organization and (4) activity level. Lack of adaptation in any of these areas may indicate potential somatosensory linked learning problems (Myklebust, 1969).

An apparently indirect consequence of academic problems may be inappropriate classroom behavior. Children who sense they are different from others, or who receive poor feedback in academic or social activities may become insecure and withdrawn or defensively hostile to shield themselves from potential failure (Ayres, 1979). These children may have low frustration tolerance and "fly off the handle" with little provocation (Faas, 1980). Fear of being ridiculed may cause a child to appear self-centered. He may ruin a game rather than be perceived as a failure. He may form strong emotional attachments with adults and strongly resist changes in his routine (Ayres, 1979).

The question of affect linked with sensory integrative dysfunction is being researched. Current constructs indicate the limbic system of the cortex to be a powerful

initiator of basic human drive and affect. It is believed that regulation of the limbic drive is provided by inhibitory and facilitory mediation of the cerebellum and thalamus. Current studies attempt to outline definite behavior deviance linked to integrative difficulties within the cerebellum and thalamus (Eccles, 1973).

It must be noted that poor behavior alone may not be a direct cause of learning problems. It may be an indicator of deeper academic relevance (Ayres, 1979).

More academic inhibitors are perceptual and motor problems (Faas, 1980). Poor muscle tone and coordination will cause motor difficulties in school; the child will physically be unable to perform as his peers do (Ayres, 1979).

The initiation and control of muscle tone appears to be modulated within the cerebellum and vestibular system. It is thought that proprioceptive and vestibular or "special proprioceptive" input received in the muscles, tendons, joints and labyrinthine structures is mostly responsible for maintenance of muscle tone and coordination during all conscious and unconscious activities (Di Quiros and Schragar, 1978). Proper integration and feedback of proprioceptive and vestibular information within the cerebellum and brain stem allows a child to adequately perform motor tasks (Eccles, 1973). As a normal child sits at his desk and writes, he unconsciously experiences good postural muscle tone, enabling

him to consciously focus attention upon his mobile extremity. Proper regulation of muscle tone provides a stable base posture upon which mobility may be superimposed (Bobath and Bobath, 1969).

Poorly integrated muscle tone may manifest itself in the classroom as clumsiness or chronically poor posture. Primary postural difficulties may cause fine motor coordination difficulties and particularly affect neatness of written tasks (Faas, 1980).

A child's motor performance may also reflect development and maturity of visual form and space perception (Faas, 1980). This may be described as the child's awareness of position and direction within his own body, or "frame of reference," and awareness of environmental relationships to that point of reference (Knickerbocker, 1968). Visual form and space perception is an important end-product of integration of all sensory channels (Ayres, 1979). Building a frame of reference or body scheme enhanced by quality sensory experience is of primary importance in developing visual form and space perception (Knickerbocker, 1968). Poor development of body scheme will affect academic tasks requiring perception of: (1) directionality, (2) spatial relations, (3) sequencing and (4) synchronization.

The student with poor visual form and space perception cannot determine accurately how the environment is arranged

and how he relates to it. His motor performance usually reflects his confusion. He may reverse letters, put his clothes on incorrectly or even have problems judging how far people and objects are from him (Ayres, 1979). By the time a child is five years old, most form and space perception concepts should be stabilized (Knickerbocker, 1968). Classroom observations of rotated letters, poor reading skills and generally poor orientation abilities may indicate potential learning problems (Faas, 1980).

Auditory-language problems linked with learning disabilities have received much attention. It has been generally accepted that all forms of communication, including symbolic forms, contain auditory-language components (Bryden, 1970).

A complex specialization of the cerebral hemispheres is needed for receptive and expressive communication (Eccles, 1973). Following complete hemisphere disconnection by callosal and commisural section of twenty patients, studies have indicated that the right hemisphere is partially responsible for decoding meaning from visual presentations. The right brain, however, does not have conscious abilities for speech and does not verbally encode (Kirk, 1968). The left hemisphere is the primary auditory-language processor, receiving information from the periphery and the right hemisphere; this hemisphere does have conscious abilities

and it "speaks" (Speery, 1968 and Eccles, 1973). Eccles states the right hemisphere is a very highly developed brain except that it cannot express itself in language so it is not able to disclose any experience of consciousness that we know. The left hemisphere is necessary for conscious expression of auditory-language messages synthesized from patterns and inputs from both hemispheres (Springer and Deutsch, 1981).

Through use of the Dichotic Listening Test research has indicated that organization and specialization of the left cerebral hemisphere for language function is necessary for achievement of receptive and expressive communication (Ayres, 1977; and Koomer and Cermak, 1981). This test utilized the introduction of different simultaneous auditory syllables through earphones. The child then reports the syllable he heard. It is expected that a normally lateralized subject hears more than half of the right ear stimuli. This is called the right ear advantage or left hemisphere advantage (Bryden, 1970).

Problems of auditory-language are a two-fold problem. First, the child with communication problems has difficulty making accurate verbal responses because of auditory integration problems. Secondly, his speech will not improve significantly because he is unable to form accurate communicative output from his poorly decoded input (Learner, 1979

and Kirk, 1968). Within a classroom setting, auditory-language problems may be suspected if the child has: problems following verbal directions, experiences reading difficulties, appears difficult to understand or demonstrates poor grammatical usage (Faas, 1980 and Myklebust, 1969).

Behavioral Rating Scales

Behavioral rating scales have been used by EPST as assistive diagnostic tools. A highly useful classroom behavior screening tool is "The Pupil Rating Scale, Screening for LD," researched and designed by Myklebust (1969). The purpose of this scale is to identify children with low academic achievement despite good potential and opportunity for learning. The scale is designed to be used by the EPST. The underlying philosophy involved developing a scale that would provide a range of observations on each child in the areas of: (1) auditory comprehension, (2) spoken language, (3) orientation, (4) motor coordination, and (5) personal social behavior. The philosophy also included developing requirements that the child must meet early in school life so that learning problems may be detected before the child experienced long periods of academic failure (Myklebust, 1969).

Each diagnostic area was broken down into descriptions of appropriate behavioral situations. Each observable behavior was given a score ranging from: 1 (poor) to 5

(most desirable). The children studied consisted of all fifth and fourth grade students in four large suburban school systems. Teachers' ratings were obtained for 2176 children. In order to obtain concurrent validity, a battery of screening tests were also administered to the same population. The Myklebust (1968) "Learning Quotient" test was used as the basic criterion. Comparison indicated consistency for scores on all five areas of behavior. The Pupil Rating Scale was determined to discriminate normal learners from disabled learners at the .001 level (Myklebust, 1969).

Another rating tool was compiled by Beatty (1979). In 1975, after collection of data on 400 potentially LD children in a rural Colorado school district, ten identification factors obtained a reliability coefficient of .70 based upon test-retest using the opinion of a panel of special educators as criterion. The ten identification factors were: (1) speech-auditory disability, (2) hyperactive-aggressive, (3) reading disability, (4) neurological disability, (5) drawing-writing disability, (6) anxiety, (7) visual disability, (8) conceptual incompetencies, (9) inactivity-lack of concentration, (10) laterality disability. In order to obtain validity, 61 elementary school children labeled as LD were judged according to classroom behavior based upon the ten identification factors. A sample of 39 normal learners was also measured. After measurement of both groups for overall

discrimination it was determined at the .001 level that the instrument identified the LD students.

Discriminative weights were also determined for each variable. The correlation coefficients are as follows: speech-auditory ($r = .47$), hyperactive-aggressive ($r = .67$), drawing-writing ($r = .66$), anxiety ($r = .44$), visual disability ($r = .46$), conceptual incompetencies ($r = .71$), lack of concentration ($r = .88$), and laterality disability ($r = .30$). For this study, all factors were significant for the given population beyond the .01 level. No normative data was given.

The Importance of Inservice Education

Rating scales and checklists have been demonstrated to be highly useful diagnostic tools in the hands of those with adequate background and training (Faas, 1980). Checklists and listed behaviors of probable diagnostic signs may lead to misinterpretation by unqualified persons (Smith and Scardina, 1980). Mandated inservice education appears to assist personnel in obtaining diagnostic skills (Faas, 1980). Special education coordinators set high priorities for those inservice programs which assist EPST in developing strategies for identification of low achievers. According to McCormick and Lee (1979) occupational therapists are qualified to assist teachers in problem identification. Through the impact of OT inservice education, teachers can assist in

proper identification and referral for quality intervention
(Smith and Scardina, 1980).

CHAPTER III

METHODOLOGY

The researcher was employed as an occupational therapist in the Alvord and Chico elementary schools of Wise County, Texas, through Texas Woman's University's graduate assistantship program. For this study these sites were chosen due to convenience and size compatibility.

Written permission was sought and obtained from the principal of each school (see Appendix A). The correspondence outlined the research study, proposed scheduling and planned participation of the subjects.

The study proposal was reviewed by the Texas Woman's University Human Subjects Review Committee. As requested by the committee, the researcher produced evidence that consent of participation was obtained from each human subject (see Appendix B).

Data was collected from each group within two consecutive school days. Seven subjects comprised the totally volunteer control group. Eighteen people comprised the experimental group.

Each teacher was assigned an identification number upon entering the meeting room. A short description of the study was given, consent was requested and directions of

the pretest were read aloud during the briefing session (see Appendix G). Administration of the fifteen-minute pretest (see Appendix C) began data collection for each group. Following pretest completion and test paper collection, the experimental group received a thirty-minute inservice program (see Appendix E). The control group took part in a thirty-minute inservice of an unrelated topic (see Appendix F). The written posttest (see Appendix D) followed both presentations. A short debriefing session (see Appendix H) concluded the entire program.

The evaluative pretest-posttest was researcher designed based upon behavioral objectives of the inservice presentation. Two equivalent test forms were used for test-retest purposes because of reported high reliability associated with tests measuring cognitive and affective domains (Verducci, 1980).

Each test contained ten questions. The weighting of questions reflected the inservice behavioral objectives. The purpose of the test was to evaluate practical knowledge of identification of LD children. Therefore, each question was written as if it were part of a case study. Multiple choice distractors were used as possible solutions for each question. The multiple choice format was chosen as the most reliable form of objective tests (Verducci, 1980).

The evaluative tool obtained construct validity from the theoretic and behavioral constructs cited in the literature review. Similar evaluative identification tools have proven to be reliable and valid.

Single-classification ANCOVA will be employed to statistically analyze the raw data. This powerful statistic was chosen due to its ability to adjust unequal, nonrandomly sampled pretest groups for initial advantage or disadvantage. The researcher manually calculated the statistics utilizing as reference and guide: Statistics for the Biological Sciences, (Scheffler, 1980). The resultant F value will reflect a ratio of treatment and test error variability. A critical F value beyond the .05 level will lead to rejection of the null hypothesis.

CHAPTER IV

RESULTS

The result of the single-classification ANCOVA analysis of the data revealed that the experimental group scored significantly higher on the posttest than did the control group. Statistical calculations yielded an F ratio of 16.83 (df = 1 and 22). The level of significance was determined to meet and exceed the .01 level. Therefore, the null hypothesis was rejected (see Table 1).

Twenty-five teachers and aides participated in the study. Identical pretest and posttests were administered to the control and experimental groups. Control data was collected after school on May 19, 1981. Experimental data was collected the following day during a special teacher release time. Collected data was compared to the test key (see Appendix I) and scored. For each test, ten was the maximum attainable score. Control pretest scores (X_a) ranged from 3 to 8, with a mean (\bar{X}_a) equaling 5.714 and standard deviation of 1.49. Control posttest scores (Y_a) ranged from 1 to 8, with a mean (\bar{Y}_a) equaling 5.571 and standard deviation of 2.37. Pretest scores for the experimental group (X_b) ranged from 5 to 9 with mean score (\bar{X}_b) of 6.889 and standard deviation of 1.49. Experimental

posttest scores (Y_b) ranged from 6 to 10 with the mean (\bar{Y}_b) equaling 8.334 and standard deviation of 1.33 (see Table 2). Five experimental subjects received scores of ten on the posttest. Of the eighteen experimental subjects, thirteen demonstrated an increase of ten to fifty percent between the pretest and posttest, one demonstrated no change, two decreased ten percent and one decreased twenty percent. One experimental subject did not complete the posttest and was not included in the data analysis. For the seven control subjects, pretest and posttest comparison revealed two increases of twenty percent, three with no change, one decrease of ten percent and one decrease of forty percent (see Table 3).

TABLE 1

F RATIO AND ALPHA LEVEL FOR SINGLE-CLASS ANCOVA

Source	degrees of freedom	Sum of the Squares	Mean of the Squares
	df	SS	MS
inservice	1	27.534	27.534
within	22	35.996	1.636
within + inservice		63.530	
F = MS inservice/MS within			F = 16.83*
*Meets or exceeds .01 level			

TABLE 2
PRETEST AND POSTTEST SCORES OF THE EXPERIMENTAL
AND CONTROL SUBJECTS

Control Group			Experimental Group		
I.D.#	Pretest	Posttest	I.D.#	Pretest	Posttest
	Xa	Ya		Xb	Yb
	. . . . .	. . . . .	107	6	7
	. . . . .	. . . . .	108	9	10
	. . . . .	. . . . .	109	7	10
	. . . . .	. . . . .	110	7	10
	. . . . .	. . . . .	111	8	9
	. . . . .	. . . . .	112	9	7
	. . . . .	. . . . .	113	9	8
	. . . . .	. . . . .	114	6	8
	. . . . .	. . . . .	115	5	10
	. . . . .	. . . . .	116	7	7
	. . . . .	. . . . .	117	5	10
	. . . . .	. . . . .	118	7	6
100	6	5	119	5	7
101	6	6	120	8	9
102	8	8	121	8	not complete
103	5	1	122	6	9
104	6	8	123	6	8
105	6	6	124	5	7
106	3	5	125	9	8
$\bar{X}_a = 5.714$			$\bar{Y}_a = 5.571$		
			$\bar{X}_b = 6.889$		
			$\bar{Y}_b = 8.334$		
					N= 25

TABLE 3
INDIVIDUAL SUBJECT DIFFERENCES
BETWEEN PRETEST AND POSTTEST

Control Group				Experimental Group			
I.D.#	Pretest	Posttest	d	I.D.#	Pretest	Posttest	d
	Xa	Ya			Xb	Yb	
	. . . . .	. . . . .	.	107	6	7	+1
	. . . . .	. . . . .	.	108	9	10	+1
	. . . . .	. . . . .	.	109	7	10	+3
	. . . . .	. . . . .	.	110	7	10	+3
	. . . . .	. . . . .	.	111	8	9	+1
	. . . . .	. . . . .	.	112	9	7	-2
	. . . . .	. . . . .	.	113	9	8	-1
	. . . . .	. . . . .	.	114	6	8	+2
	. . . . .	. . . . .	.	115	5	10	+5
	. . . . .	. . . . .	.	116	7	7	0
	. . . . .	. . . . .	.	117	5	10	+5
	. . . . .	. . . . .	.	118	7	6	-1
100	6	5	-1	119	5	7	+2
101	6	6	0	120	8	9	+1
102	8	8	0	121	8	Not Complete	
103	5	1	-4	122	6	9	+3
104	6	8	+2	123	6	8	+2
105	6	6	0	124	5	7	+2
106	3	5	+2	125	9	8	-1

$\bar{X}_a = 5.714$ $\bar{Y}_a = 5.571$ $\Sigma d = -1$ $\bar{X}_b = 6.889$ $\bar{Y}_b = 8.334$ $\Sigma d = 26$

N= 25

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Review of the Study

The purpose of the study was to determine EPST's ability to identify LD children following inservice education based upon current LD and sensory integrative constructs. An Educative program and evaluative tool was designed utilizing current behavioral constructs. Educators in two discrete but similar school districts of rural Texas were chosen as control and experimental subjects. Both groups took the pretest and posttests. Only the experimental group received the inservice concerning identification of LD children.

Conclusions

Analysis of the data did reveal a significant difference between the scores of the control and experimental groups. For this study, the experimental subjects scored significantly higher on the posttest than did the control subjects. Conclusions suggesting cause and effect should be exercised cautiously due to smallness and unevenness of the sample groups and variables beyond experimental control. The researcher believes that control group pretest and posttest reliability may have been somewhat lowered due to excessive environmental distractions. However, based upon

the given results it could be concluded that: EPST receiving inservice education concerning practical identification of LD children were more skilled in LD identification than others not receiving the presentation.

Recommendations

In review of the basic problem the researcher cited that within EPS many inservice presentations are given pertaining to early identification of LD children. Rarely has it been reported whether the students of the inservice practically applied the learning. In order to address the problem, the researcher offers five basic recommendations.

1. Investigation of further methods to best evaluate practical application of learning. Future studies should attempt to determine more reliable methods of evaluation which would closely parallel actual classroom experiences. Perhaps one could try evaluative procedure utilizing visual case studies, real or transcribed, to simulate LD in the classroom.

2. Study replication and test standardization. Further studies should attempt to standardize the evaluative tool used in this study. To obtain reliability of the test instrument, new study groups must be correlated to the existing groups. Future studies should ideally be homogeneous in nature and randomly sampled to insure optimal internal group consistency.

3. Review of literature by OT's in EPS. Validity of the evaluative tool was derived solely from current constructs obtained in literature review of sensory integrative theory, application, and observations. The body of knowledge is rapidly expanding and modifying especially within sensory integrative spheres. Continued literature review is highly important to OT's imparting current techniques and theories within the public school settings.

4. Establishment of routine inservice opportunities in the EPS. OT's within the public schools should consult with appropriate administrative representatives to establish permanent yearly inservice programs, during release time. Faas (1980) stated that inservices presented during release time versus after school time resulted in greater attendance, alertness, positive attitudes, and learning. In substantiation of this statement, the current study experienced greater attendance and alertness from the teachers attending during release time versus those attending after school voluntarily in lieu of other options. Of the released teachers, 100% attended the program. During the after school session, 70% of the possible teachers volunteered to attend with the remainder monitoring school bus departure and attending child counseling meetings. In conclusion, arrangement of release time appears to promote the atmosphere for effective learning.

5. Establishment and maintenance of a working educator-related service partnership. Within the public school setting the teacher is the main program deliverer. Many children, however, do not benefit directly from educative services due to handicapping conditions. A working partnership must exist between teacher and therapist to help identify those students who may enhance their learning skills through OT intervention. This relationship must digress from formal inservice presentations to informal day-to-day consultations.

From practical experience in the school setting the researcher found the need to form this partnership. From this basic need this study was formed. Occupational Therapists must continue to take time to consult with teachers. A major part of our therapy referrals originate from teachers. To encourage referrals of those children best suited for intervention, we must promote group and one-to-one educative and consultative services designed to assist EPST to identify the LD child.

APPENDIX A

LETTERS SEEKING AND OBTAINING PERMISSION FROM:

Alvord
Chico

March 20, 1981

Ms. Catherine Staatsburg
120 W. Simmons Avenue
Weatherford, Texas 76086

Mr. T. F. Singleton,
Principal
Chico Elementary School
Box 95
Chico, Texas 76030

Dear Mr. Singleton:

In the event we are not fully acquainted, I am the occupational therapist who services your school Tuesday afternoons.

After working with children and staff in elementary schools throughout Wise County, I have developed an interest in devising more efficient methods of early intervention and identification of the high risk child in the classroom setting.

Presently, I am enrolled in the Occupational Therapy Master of Arts program at Texas Woman's University. The topic of my proposed thesis is A Study to Assess Practical Application of Knowledge of Early Identification of Learning Disabled Children by Elementary Public School Teachers. Let me tell you more about the study. It is planned that the study involve two schools in Wise County. One school will serve as the control sample; a fifteen-minute pretest and posttest will be administered. The tests will assess the teachers' ability to identify learning disabled children in hypothetical classroom settings. The control sample will serve as the study baseline to which the second group will be compared. The second group will be the experimental sample. This group will receive the pretest, a forty-five minute inservice dealing with symptoms of learning disabilities observed in the classroom and finally the posttest.

With your approval, I would like your teachers to serve as the experimental sample of the study and receive the inservice program and testing.

Mr. T. F. Singleton
March 20, 1981
Page Two

Written permission will be sought from each teacher prior to the testing. Strict confidence will be adhered to throughout the study.

I am available for inservice scheduling after school on Monday, Tuesday, and Friday.

If the idea sounds feasible, could you please give me an indication of how many teachers you employ, including teacher assistants, special educators, gym and art teachers?

I will be looking forward to hearing from you.

Sincerely yours,

Catherine Staatsburg, O.T.R.

March 20, 1981

Ms. Catherine Staatsburg
120 W. Simmons Avenue
Weatherford, Texas 76086

Mrs. Martha Lawson, Principal
Alvord Elementary School
Alvord, Texas 76225

Dear Mrs. Lawson:

In the event we are not fully acquainted, I am the occupational therapist who services your school Friday afternoons.

After working with the children and staff in the elementary schools throughout Wise County, I have developed an interest in devising more efficient methods of early intervention and identification of the high risk child in the classroom setting.

Presently, I am enrolled in the Occupational Therapy Master of Arts program at Texas Woman's University. The topic of my proposed thesis is, A Study To Assess Practical Application of Knowledge of Early Identification of Learning Disabled Children by Elementary Public School Teachers. Let me tell you more about the study. It is planned that the study involve two schools in Wise County. One school will serve as the control sample; a fifteen-minute pretest and posttest will be administered. The tests will assess the teachers' ability to identify learning disabled children in hypothetical school settings. The control sample will serve as the study baseline to which the second group will be compared. The second group will be the experimental sample. This sample will receive the pretest. A forty-five minute inservice presentation will follow dealing with classroom learning disability symptoms. Finally, the post-test will be given.

With your approval, I would like your teachers to serve as the control sample of the study. Also, after the testing I would enjoy presenting the inservice program to the teachers and answering any questions.

Mrs. Martha Lawson
March 20, 1981
Page Two

Written permission will be sought from each teacher prior to the testing. Strict confidence will be adhered to throughout the study.

I am available for inservice scheduling after the month of May on Monday, Tuesday, and Friday.

If the idea sounds feasible, could you please give me an indication of how many teachers you have, including teacher assistants, special educators, gym and art teachers?

I will be looking forward to hearing from you.

Sincerely yours,

Catherine Staatsburg, O.T.R.

Alvord Public Schools

Box 85
Alvord, Texas 76225

Graduate Office
Texas Woman's University
Denton, Texas 76201

To whom it may concern:

Permission was given to Catherine Staatsburg to present the inservice presentation, "Occupational Therapy and the Developmentally Disabled Child in the Public Schools." Collection of data for research purposes was also granted. The said program was scheduled and presented at 3:00 pm, May 19, 1981.

Sincerely yours,



Martha Lawson
Principal
Alvord Elementary School

Chico Independent School District

PHONE: 817/644-2228
 POST OFFICE BOX 95
 CHICO, TEXAS 76030

MAC W. VINCENT
 SUPERINTENDENT

W.L. (BILL) CRABBS
 HIGH SCHOOL PRINCIPAL

T.F. SINGLETON
 ELEMENTARY PRINCIPAL

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 DANNY WELLS

May 1, 1981
 Catherine Staatsburg
 Denton, Texas

Dear Cathy,
 We will be happy for you
 to present the inservice presentation
 "Identification of Learning Disabled
 Children by Elementary Public School
 Teachers." We also give you permission
 to collect data for research purposes.
 We will be looking for you to work
 with me and my teachers at 2:15 P.M.
 May 20, 1981.

Yours truly,
 T. F. Singleton, Pr.



Error in pagination or missing when printed.

APPENDIX B

PERMISSION TO SERVE AS SUBJECT

Consent Form
 TEXAS WOMAN'S UNIVERSITY
 HUMAN SUBJECTS REVIEW COMMITTEE

(Form B)

Title of Project: _____

Consent to Act as A Subject for Research and Investigation:

I have received an oral description of this study, including a fair explanation of the procedures and their purpose, any associated discomforts or risks, and a description of the possible benefits. An offer has been made to me to answer all questions about the study. I understand that my name will not be used in any release of the data and that I am free to withdraw at any time. I further understand that no medical service or compensation is provided to subjects by the university as a result of injury from participation in research.

 Signature

 Date

 Witness

 Date

Certification by Person Explaining the Study:

This is to certify that I have fully informed and explained to the above named person a description of the listed elements of informed consent.

 Signature

 Date

 Position

 Witness

 Date

One copy of this form, signed and witnessed, must be given to each subject. A second copy must be retained by the investigator for filing with the Chairman of the Human Subjects Review Committee. A third copy may be made for the investigator's files.

APPENDIX C

PRETEST

TEST #1

PLEASE DO NOT TURN THIS PAGE UNTIL DIRECTIONS ARE GIVEN

Pretest
Page Two

5. In a class of normal second graders, a teacher may suspect one of her students has poor muscle strength if that child:
- Is observed bumping into walls and furniture.
 - Avoids group games and activities.
 - Is observed dropping things he carries.
 - Is observed shifting and moving around in his seat.
6. While a group of children are playing kickball on the playground, one child misses the ball, his teammates laugh at him. He becomes angry and kicks the ball out of the playground and leaves the group to play alone. What could be best concluded from this incident?
- The task was too hard for his level of motor skill.
 - He was physically fatigued and acted in frustration.
 - The failure injured his weak self-concept.
7. A nine year old child has difficulty with written homework. His printed letters are poorly formed and the letters do not stay on the lines or the margins. Pick the best answer out of the following learning disability symptoms:
- Impaired muscle strength and ability to visually perceive the space.
 - Problems using language and poor muscle strength.
 - Problems visually perceiving the space on his paper and short attention span.
 - Poor self-concept and poor muscle coordination.
8. A teacher remarks that one of her students in the third grade has auditory-language dysfunction. This means the child:
- Can't hear what is said and can't reply.
 - Has brain damage to the verbal center of the brain.
 - Has difficulty perceiving what is said and can't reply properly.
 - Is partially deaf to certain tones.
9. A ten year old student was visibly upset when her teacher was absent. Another day she was equally upset when the teacher moved her desk closer to the teacher's desk. This student:
- Is reacting to poor self-concept.
 - Has become accustomed to certain visual stimuli.
 - Has difficulty relating to the environment.
 - Becomes upset and distractible unpredictably.

Pretest
Page Three

10. Which is not a characteristic of an elementary school-aged hyperactive child?
- a. Cannot attend to multiple stimulation.
 - b. Is active but fatigues easily.
 - c. Cannot sit still.
 - d. Has difficulty completing and organizing tasks.

APPENDIX D

POSTTEST

TEST #2

PLEASE DO NOT TURN THIS PAGE UNTIL DIRECTIONS ARE GIVEN.

POSTTEST

IDENTIFICATION NUMBER _____

ANSWER EACH OF THE FOLLOWING MULTIPLE CHOICE QUESTIONS BY CIRCLING THE LETTER OF THE BEST ANSWER. YOU HAVE 15 MINUTES TO COMPLETE IT.

1. There are indicators that a teacher may observe when an elementary school aged child has poor attitude toward himself. One observation may be:
 - a. Wanting to be enveloped in a large group of peers.
 - b. Demands of attention and praise from the teacher.
 - c. Dependence on age-mates for support.
 - d. Self-directed words of anger.

2. A first grade student does not like to sit in the lunch room or in class with the other students. He does not mind being touched by them but he does not want to be near them. This child:
 - a. May have difficulty judging how far people are from him.
 - b. May be able to filter out distractions.
 - c. May be insecure because he is different.
 - d. May have emotional problems around people.

3. The following statement is incorrect, "All learning disability symptoms must be recognized before the child is considered learning disabled." Pick the best correction for the statement.
 - a. The child is symptomatic in all areas but rarely detected.
 - b. The child may exhibit any number of the symptoms to be considered learning disabled.
 - c. The child should exhibit half of the symptoms to be considered learning disabled.
 - d. No one really knows all the symptoms to safely identify the child.

4. The definition of learning disability implies that:
 - a. Children have some degree of brain damage to be considered learning disabled.
 - b. Learning disabled children are also retarded.
 - c. Constant repetition of classroom skills will remove dysfunction.
 - d. Learning disabilities occur due to poor brain organization.

Posttest
Page Two

5. A kindergarten teacher may suspect a disorder of muscle strength if the suspected child:
 - a. Often wants to play quiet games.
 - b. Has low frustration tolerance before nap time.
 - c. Can't play kickball as well as his six year old brother.
 - d. Is constantly reminded about a slumped posture.

6. An eight year old child who asks if his shoes are on the correct feet may:
 - a. Be trying to gain more attention.
 - b. Have motor coordination problems.
 - c. Have problems visually judging right from wrong.
 - d. Have poor touch sensation in his feet.

7. In a class of fourth graders one child has a speech pronunciation deficit. The teacher finds she has to repeat verbal directions to the child more often than the others. Upon further observation she discovers the student:
 - a. Responds best to slow, loudly stated directions.
 - b. Also has difficulty responding orally.
 - c. Finds verbal directions too stressful to respond.
 - d. Often loses attention and daydreams in same situations.

8. While a class of first graders are playing tag, one child is very nervous when tapped by others. When returning to the classroom, the child is disruptive. This child:
 - a. Has poor ability to tolerate touch stimulation.
 - b. Needs attention from the teacher.
 - c. Does not like to lose games.
 - d. Cannot readily change from one task to another.

9. In reading class a nine year old boy is unable to tell the teacher about the chapter he has silently read. The teacher suspects a problem. She should:
 - a. Have his hearing tested because he cannot follow directions.
 - b. Observe his ability to copy words from the blackboard.
 - c. Have his read the chapter again slowly.
 - d. Help him organize his time so he will get the reading completed.

Posttest
Page Three

10. Which of the following is not a symptom of learning disability for a six year old?
- a. Bossiness with peers and teacher.
 - b. Inability to remain seated for ten minutes.
 - c. Realizing the difference between letters and numbers.
 - d. Breaking the lead of his pencil in class.

APPENDIX E

EXPERIMENTAL INSERVICE PRESENTATION

EXPERIMENTAL INSERVICE PRESENTATION

Identification of the Learning Disabled Child

By Elementary Public School Teachers

I would like now to present to you a short inservice talk which will hopefully aid you in identifying potentially learning disabled children in your classroom.

It is interesting to note that all of us in some way have problems dealing with everyday life or are weak in some task; this is normal. But approximately 5-10% of all elementary school aged children have enough problems and weaknesses in dealing with life tasks that they cannot deal with their academic tasks efficiently and thusly have "learning problems."

What is the definition of the learning disabled child? Well, to paraphrase the state definition, this child is any student who is experiencing poor academic skills and achievement which cannot be directly linked to a physical disability or brain damage. From a therapeutic standpoint we can say that this child is experiencing poor academic achievement due to the fact that his brain is not receiving and organizing stimuli properly and not that he is brain damaged. We call this an integrative problem. When a child has such a problem and he is unable to interpret the world and behave in the world as his peers do. Poor academic achievement may cause frustration and anger causing a child to behave inappropriately. Or the inability to interpret and control sensations may cause him to be uncontrollably hyperactive. In any case, this is a very serious and difficult thing for the child and teacher to handle.

I have compiled a list of behaviors or "symptoms" that teachers may observe in the classroom which may assist them in identifying the potentially learning disabled student. This is not a cookbook technique for labeling students, under no circumstance should a child be given the title "disabled" on the basis of isolated incidents. I hope to show you how to be attuned to the ongoing everyday behaviors of the potentially learning disabled youngster.

The symptoms of learning disabilities are:

- a. hyperactive and/or distractible behavior
- b. behavior, giving indication of poor self-concept
- c. impaired muscle tone and coordination

- d. impaired visual form and spatial perception
- e. impaired auditory-language function

I stated before that no child should be judged solely upon one isolated incident, that is true, but one may safely recommend that the child may be learning disabled on the basis of prolonged behaviors in any of the five areas I have just mentioned. In other words, for a child to be considered potentially learning disabled by a therapist, the teacher need only to have recognized dysfunction of a prolonged nature in as few as just one area.

Now I would like to describe each symptom and discuss associated classroom behaviors.

A. Hyperactive and Distractible

This behavior should be judged very carefully for age appropriateness before being considered. It may be typical for kindergarten children to be hyperactive after sitting still for fifteen minutes, but it is not acceptable for fourth graders. The motivation behind the activity should also be examined; the children may be bored standing in line, or maybe wish they were someplace else. Generally, a true hyperactive and distractible child can't help having a short attention span or being restless.

Classroom Behaviors

1. Short attention span compared to his peers. Small and unusual distractions will bother him, i.e., rustling papers, people walking down the aisles.
2. Difficulty sitting still. Fidgets at his seat, seems to always be in motion, never seems to fatigue.
3. Difficulty organizing and completing tasks. Due to his distractible nature, he will be unable to properly organize his study time, is very forgetful, doesn't attend to details, seems that his "head is not put on right."
4. Tactile defensive, may become irritated if others touch him.

B. Behavior Problems Due to Poor Self-Concept

This may be an indirect consequence of a deeper problem. Children who sense they are different from the others, or who receive poor acceptance in academic or motor activities

with teachers and peers may become very insecure, withdrawn, or defensively hostile to shield themselves from potential pain or failure.

1. The child may have a low frustration tolerance and "fly off the handle" with apparently little provocation.

2. Fear of failing or being ridiculed, may cause the child to appear self-centered. He may be observed ruining a game situation rather than have others perceive him as a failure.

3. His poor self-concept may cause him to avoid peers due to possibility of ridicule and form strong emotional attachments with adults.

4. His poor self-concept may make him resistive of changes, change of seat in the classroom.

C. Impaired Muscle Tone and Coordination

Physical problems can cause academic problems. The tone of a muscle can be thought of as its strength. A child with poor muscle strength or coordination will not be able to physically perform as the others. His problem may predominately appear in gym class but also in the classroom.

1. Poor posture that is consistently noticed.

2. The child may appear to always be "clumsy," tripping, having difficulty getting in and out of his seat.

3. The child may be observed dropping things he carries in his arms, often dropping his writing instrument in class and the teacher should observe the older child who constantly breaks the lead of his pencil.

4. This child is easily fatigued during physical exertion not secondary to an illness.

5. A poorly coordinated or weak child will have difficulty performing the motor task of writing, his letters will often be sloppy and poorly formed.

D. Impaired Visual Form and Spatial Perception

The student can't visually determine accurately "how things should be." His motor performance usually reflects

his confusion of how things are perceived, he may reverse letters, put his clothes on incorrectly or even have problems judging how far people and objects are from him.

1. This child often is seen reversing letters, numbers or words. He may also omit the same. May have problems discriminating between letters and numbers.

2. Due to problem visualizing and judging space, he may have problems placing words on lines and within the margins.

3. This problem makes it difficult for him to copy from the blackboard.

4. He may also have problems reading for comprehension, because of tendency for reversals and omissions.

5. He may bump into furniture and people due to his impaired judgment of space. He may become apprehensive about being around people because of the fear that he does not know how far they are from him.

E. Impaired Auditory-Language Function

This is a two-fold problem. First of all, this child has difficulty making accurate verbal responses because he has difficulty interpreting all of the auditory stimuli that are entering his brain. Secondly, his speech will not improve significantly with time because he is unable to accurately monitor his speech attempts.

1. Poor perception causes this child to have difficulty following oral directions in class.

2. Poor oral responses to questions may occur.

3. Verbalizations may appear immature or difficult to understand.

These problems cause academic dysfunction most directly because the child is fighting to be like the other children and he has little attention or energy for school. It is important to know that the child cannot deal with these problems on a conscious level. So any child suspected of having any one of these behavioral symptoms should be referred to your school principal so that appropriate review and/or service can be provided for the child.

Thank you.

Objectives for: Identification of the Learning Disabled
Child by Elementary Public School Teachers

Objectives:

Given a lecture presentation, the student will demonstrate knowledge required to identify learning disabled children in the public school setting by successfully completing the following behavioral objectives:

1. The student will be able to identify, via multiple choice selection, the philosophy of learning disability by recognizing it specifically as:
 - a. Occuring due to lack of central nervous system organization.
 - b. An occurrence not necessarily due to central nervous system trauma.

One hundred percent (100%) will be required for passing.

2. The student will identify, via multiple choice case studies, the following learning disability symptoms, by specifically recognizing them as:

- a. hyperactive-distractible behavior
- b. behavior, giving indications of impaired self-concept
- c. impaired muscle tone and coordination
- d. impaired visual form and spatial perception
- e. impaired auditory-language function.

3. The student will identify, via multiple choice case study selection, academic dysfunction which may be observed due to some or all of the above stated learning disability symptoms, by recognizing specifically that:

- a. hyperactivity and distractibility may be recognized as:
 1. short attention span
 2. difficulty sitting still
 3. difficulty organizing and completing
- b. behavior problems may be recognized as:

1. inability to cope with stress, low frustration tolerance
 2. apparent self-centeredness, difficulty sharing, or participating in games
 3. difficulty associating with peers
- c. impaired muscle tone and coordination may be recognized as:
1. the weak or easily fatigued child
 2. the clumsy child
 3. immature play
 4. poorly formed written letters
- d. impaired visual form and spatial perception may be recognized as:
1. word or letter reversals
 2. distorted word placement on paper
 3. difficulty copying from blackboard
 4. difficulty reading
 5. difficulty judging environmental space
- e. impaired auditory-language function may be recognized as:
1. difficulty following oral directions
 2. vocalizations that appear immature.

APPENDIX F

CONTROL INSERVICE PRESENTATION

CONTROL INSERVICE PRESENTATION

Occupational Therapy and the Developmentally Disabled
Child in the Public Schools

I. What is Occupational Therapy?

- A. For the developmentally disabled student, to provide a therapeutic experience to increase normal development and facilitate academic achievement.
- B. To help the teachers identify disabled students.

II. What is a Developmentally Disabled Student?

- A. Definition is similar to the State definition of the multihandicapped student (student with two or more identified handicapping conditions which result in educational deficits requiring special education) (Texas Education Agency, 1980).

III. What Problems Interfere with Academic Progress?

- A. Abnormal Reflex Development (Bobath and Bobath, 1976ab)

Early reflexes are important in the first development of the child. They help the child to begin to move and function. But as more complex development occurs, such as crawling, and walking, they slowly fade from importance and are gradually replaced by reflexes that are retained for life, such as equilibrium. Awareness of early reflexes is more important because if these reflexes persist as they do in the developmentally disabled student, they prevent normal motor function and development and often result in permanent deformities and disabilities.

B. Discussion of Specific Reflexes

I would like to discuss and demonstrate a few early reflexes which typically cause a child to have problems in school. It is important to remember that one will never see each reflex as grossly demonstrated as you will see it today but it is important to remember the academic signals that you may see in a child which may cause you to be concerned. One must be prudent in assigning children disability

labels. Only if you can back up your suspicion of dysfunction with prolonged and consistent reports of the suspected problem should you alert your administration that a child is potentially disabled.

1. The Asymmetrical Tonic Neck Reflex

It is not necessary to remember the name of this reflex, only what it looks like and how it affects academic performance.

The Clinical Picture

A child is suspected of retaining this reflex if a side-to-side motion of the head produces an involuntary arm and leg motion. Usually the limbs extend on the side of the face and flex on the side of the skull. (Demonstration).

The Academic Picture

- a. Inability to turn the head and write at the same time.
- b. Frequent regard of one hand and disregard of the other, often has to be reminded about the disregarded side. Arm may "fly in the air."
- c. Curvature of the spine (scoliosis).
- d. Crossing of the midline may be impaired due to the one side regard. This may affect reading and writing.
- e. Ambulation may be clumsy due to the involvement of the legs.

It is relatively easy for a child with this reflex to disregard one side of the body. As hand dominance occurs and reflex strengthens the tendency to use the dominant hand and neglect the other.

2. The Symmetrical Tonic Neck Reflex

The Clinical Picture

Upon observation, this reflex may be suspected if neck flexion and extension cause involuntary arm and leg movements. When the head is bent forward, the arms bend and the legs straighten. If the head is bent backwards, the arms straighten and the legs bend.

The Academic Picture

- a. Little children may be seen sitting on the floor in a W posture. This is bad for the knees and back.

- b. This causes children to walk with hands at "high guard."
- c. May cause problems for the child when copying from the blackboard.
- d. May cause sitting posture to be poor, humped back.

3. The Positive Supporting Reflex

The Clinical Picture

To determine the extent of this reflex the therapist bounces a child on the balls of his feet. If it is present the child will rise on tip toes with the knees and hips locked into extension.

The Academic Picture

- a. The child will toe walk.
- b. Poor balance may occur, the child will appear awkward.
- c. Gym activities will be difficult. The child will have difficulty running, skipping and hopping on one foot.

Other Observances

In general, poor reflex development will interfere with the child's balance and equilibrium.

A teacher may be alerted to possible reflexive problems if undue effort and stress is used to execute normally age appropriate activities.

These reflexive problems cause academic problems most directly to the extent that the child is spending all of his school time fighting the reflexes that he cannot deal with his academic task. It is important to know that the child cannot consciously deal with the reflexes because they are subconsciously controlled. Therefore, repetition and remediation cannot effectively deal with this problem without the help of therapy.

Any child suspected of having physiological problems which interfere with learning or academic progress should be referred to your school principal so that appropriate review and/or services can be provided for the child.

Thank you.

APPENDIX G
SUBJECT BRIEFING

SUBJECT BRIEFING

"My name is Catherine Staatsburg. I am the occupational therapist who visits your school each (Tuesday, Friday). Currently, I am completing course work toward a Master of Arts in occupational therapy and presently am pursuing my thesis. This program today will assist me in collecting the data necessary for my study.

The purpose of the study is to assess elementary public school teachers' knowledge of a specific group of 'at risk' students. This knowledge hopefully will be determined by two, 10-question multiple choice tests. In addition, after the first test and before the second, a thirty-minute in-service talk will be given which may assist the teacher to complete the second test. It is hoped that the teacher will also benefit from the study by providing the opportunity for a cross-disciplinary experience with a member of a related field. All related questions will be answered.

Numbers have been distributed to all in order to assure total confidentiality throughout the study. These are to be used at the heading of the tests. No name will be used in any release of the data. All program participants are free to withdraw from the study at any time.

No compensation will be provided by the University as a result of injury sustained during the program. I would appreciate that the consent forms be filled out in triplicate.

You may keep one copy but please return the other two so that they may be kept for my study file and be submitted to the Human Subject Review Chairman at the University. Please feel free to ask any questions pertaining to the study.

Now, please turn to the first page of the test. Please place your number in the appropriate space and supply the optional information concerning gender and job specialization if you wish. Please read the directions carefully and circle the letter of the best answer. You have 15 minutes to complete the test. Also, please turn the test face down when you complete it. I will collect all tests as everyone is finished. Thank you, you may begin."

INSERVICE

"Now turn to the first page of the second test. Be sure to enter your number at the top. Again, read the directions and circle the letter of the best answer. You have fifteen-minutes to complete the test. Please don't leave when you have finished, as I have a few more comments pertaining to the program. Thank you, you may begin."

APPENDIX H
DEBRIEFING OF SUBJECTS

DEBRIEFING OF SUBJECTS

Experimental

"This concludes the program. Thank you for your patience and cooperation, I appreciate it greatly.

As the designer of this program and tests, I will take full responsibility for the outcome. The outcome of the testing will not in any way reflect the knowledge or attitudes of this school or its staff members.

Thank you again."

DEBRIEFING OF SUBJECTS

Control

"Thank you for your cooperation. As you have probably noted, the tests did not match the inservice presentation. The reason for the difference is that, for this study, I was interested in how a group of people perform on a test without being prepared. I truly appreciated your patience.

As the designer of the tests and program, I will take full responsibility for the outcome. The outcome of the testing will not in any way reflect the knowledge or competency of this school or its staff members.

If you wish, I may return and present the inservice talk which accompanies the tests.

Thank you again."

APPENDIX I

TEST KEY

TEST KEY

<u>PRETEST</u>		<u>POSTTEST</u>	
1	a	1	b
2	b	2	a
3	d	3	b
4	b	4	d
5	c	5	d
6	c	6	c
7	a	7	b
8	c	8	a
9	a	9	b
10	b	10	c

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