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Teacher Inservice Education to Ease the Mainstreaming Process and Enhance Student Development

Therese Elizabeth Finn
Loyola University Chicago

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TEACHER INSERVICE EDUCATION TO
EASE THE MAINSTREAMING PROCESS
AND ENHANCE STUDENT DEVELOPMENT

by

Therese Elizabeth Finn

A Dissertation Submitted to the Faculty of the Graduate School
of Loyola University of Chicago in Partial Fulfillment
of the Requirements for a Degree of
Doctor of Education

January

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ABSTRACT

An experimental inservice training program was administered to the teachers in a public school representing a black lower middle class socioeconomic group on Chicago's southside. One aim of the inservice program was to alter the teachers (N=42) attitudes toward the handicapped children basically through exposure to the learning disabled children in their classes and also the content of the inservice program. The format of the inservice training program were lectures, films, and material demonstrations presented over a seven month period to the teachers in the experimental elementary school. Pre-testing (in September) and post-testing (in May) of the teachers was done with Lazaar's Attitude Toward Handicapped Individuals Scale in order to see if attitude changes did occur.

Another purpose of the inservice program was to enhance achievement and self-concept development of the learning disabled population at the school. The learning disabled children (N=30) were placed in two different class settings; the resourced classroom and the self-contained learning disabilities setting. Pre-testing of the learning disabled children with the use of The Wide Range Achievement Test and the Piers-Harris Children's Self-Concept Scale, was conducted in September. Post-testing was done in May using the same instruments.

The results of the study were that teachers attitudes were significantly altered to be more in line with teachers who had voluntarily taken special education courses previous to the inservice training. Achieve-

ment gains for the learning disabled children, particularly in the area of mathematics, were noted within the mainstreamed setting. No significant results were found in the areas of self-concept of the learning disabled children.

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VITA

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She attended elementary and secondary schools in the Catholic school system of that same city and graduated from Academy of Our Lady High School in June 1969.

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CHAPTER I

INTRODUCTION

As a result of recent federal legislation, the Education of All Handicapped Children Act (P.L. 94-142), the educational services to handicapped students have been mandated to provide the "least restrictive alternative setting." Inherent in this law is the mainstreaming philosophy effective in Illinois in the fall of 1978. The law guarantees the educational rights of handicapped children and their parents, and mandates individual instructional plans for each child (Dean, 1976). The potential of 3.16 billion federal dollars being made available by fiscal year 1982 is astounding when compared with the 199 million dollars for the current fiscal year (Jones, 1976).

This study attempts to evaluate a procedure intended to ease the mainstreaming process for the learning disabled child along with the regular classroom teacher (not formally trained in the education of the handicapped). A series of inservice workshops was prepared and administered to the school staff involved with the education of the learning disabled students. The purpose of the inservice program was to enhance cognitive and affective development of learning disabled students through the knowledge gained by the teachers attending the various inservices.

Another intent of the study was to evaluate the effectiveness of the two popular types of educational settings, resourced and self-

contained classrooms, used in the remediation of learning disabled children. Does a resourced placement wherein learning disabled children are mainstreamed with the regular students add more to the child's cognitive and affective development? Or, would a self-contained setting where the learning disabled child is grouped only with other learning disabled children and receives remedial instruction from a special educator better his achievement and self-concept? Pre and post-testing in both achievement and self-concept was conducted in order to answer these questions.

An additional purpose of the dissertation was to determine whether the attitudes of regular educators could be favorably altered toward the special child. Through lectures, discussions, films, remedial techniques, and material demonstrations geared to aid their classroom instruction, educators were encouraged to respond more positively toward the handicapped child. Pre and post-testing of the teachers' attitudes toward handicapped children was conducted to measure if change in attitude occurred.

In the present study, I measured the self-concepts and achievement of levels of a group of resourced and self-contained learning disabled children at a Chicago public school located in District 27, Gompers Elementary School. The Wide Range Achievement Test (J.F. Jastak and S.T. Jastak, 1965) and The Piers Harris Self-Concept Scale (Ellen V. Piers and Dale B. Harris, 1969) were the standardized tests used to measure achievement and self-concept respectively in the treatment and control groups. A control group consisting of

thirty learning disabled children was obtained from Van Vlisingen Elementary School.

A series of inservice sessions was presented to the regular and special educators of the learning disabled children for the purpose of easing the mainstreaming process and enhancing self-concept and achievement of these children. Inservices included lectures, films, material demonstrations, and workshops. The inservices were administered from October through April of the school year.

At the completion of the inservice sessions, the self-concept and achievement of each group of learning disabled children was again measured. The Attitude Towards Handicapped Individuals (ATHI) Scale, developed by Alfred L. Lazar in 1973, was administered to the teachers in the control and experimental groups both before the inservice sessions and again after the completion of the program.

CHAPTER II

REVIEW OF THE LITERATURE

Law has been used by special educators and parents of the handicapped to force an unwilling educational system to direct resources to the establishment of special programs for exceptional children (Weintraub, 1969).

A review of the historical and philosophical development of special education in terms of the major legal developments pertaining to identification and placement and the implications of these developments to special education is presented.

In 1919, the Supreme Court of Wisconsin ruled in Beattie v. State Board of Education 172 N. W. 153 that "the right of a child of school age to attend the public schools of the state cannot be insisted upon when his presence therein is harmful to the best interests of the school." It was shown that the child in question was not a physical threat and could compete in the academic environment. The major argument presented by the school district for exclusion was that his physical condition (cerebral palsy) produced a "depressing and nauseating effect on the teachers and the school children" and that he required an undue portion of the teacher's time and attention (Weintraub, 1969).

By the early 1900's a growing concern for these children developed (Coleman, 1968):

As families lost their economic production activities they also began to lose their welfare functions and the poor or ill or incapacitated became more nearly a community responsibility. Thus the training which a child received came to be of interest to all in the community, either as his potential employers or his potential economic supports if he became dependent.

While public school special education classes for the deaf received their impetus in the 1860's, the first public school class for the mentally retarded was established in 1896 in Providence, Rhode Island. By 1922, there were one hundred ninety-one public school programs for children with varying handicapping conditions in cities with populations over 100,000 (Weintraub, Abeson and Bradock, 1971).

By 1948, 1,500 school systems reported special education programs, 3,600 in 1958, and 5,600 in 1963. Mackie (1965) reported that as many as 8,000 school districts contracted for special education services from neighboring districts. Today- it is estimated that forty percent of the nation's six million handicapped children of school age are receiving special education services (Weintraub, Abeson and Bradock, 1971).

Of the sixty percent of the handicapped children not receiving special education services, approximately one million are excluded totally from a publicly supported education. These children are in homes or institutions or receive private education paid for by their parents or charity (Weintraub, Abeson and Bradock, 1971).

LEGAL PRECEDENTS LEADING TO P.L. 94-142

Recent court decisions will hopefully bring about a change in state laws concerning special education. Brown v. Board of Education

347 U.S. 483 (1954) stated that racial segregation in public education violated the Fourteenth Amendment of the U.S. Constitution. Brown gave rise to the "right-to-education" cases, and they in turn helped establish other rights for handicapped persons (Turnbull, 1978).

In 1969, Judge Wilkens, Third Judicial District Court of Utah, required that two mentally retarded children excluded from education and placed under the Department of Welfare be provided education as a part of the public education system (Fred G. Wolf et al. v. the Legislature of the State of Utah Div. No. 182646 (T9697)). He noted:

The policy of placing these children under the Department of Welfare and segregating them from the educational system can be and probably is usually interpreted as denoting their inferiority. A sense of inferiority and not belonging affects the motivation to learn. Segregation under the apparent sanction of law and state authority has a tendency to retard the educational, emotional and mental development of the children (Weintraub, Abeson and Bradock, 1971).

In January, 1971 the Pennsylvania Association for Retarded Children, on behalf of the parents of thirteen retarded children, brought suit in the U.S. District Court for the Eastern District of Pennsylvania against the State of Pennsylvania, its agencies and school districts for failure to provide their children a publicly supported education. The plaintiffs argued that this was a violation of the equal protection clause of the Fourteenth Amendment of the Constitution of the United States. A consent agreement was reached between the parties; the court ordered the state to provide education to all mentally retarded children, including those living in state institutions, within one year (Pennsylvania Association for Retarded Children et al. v. Commonwealth of Pennsylvania, David H. Kurtzman

et al., Civil Action No. 71-42) (Abeson and Bolick, 1974).

There are many professional and social issues related to the task of identifying and placing children in special education programs. The existing body of law addresses itself to four major issues: (1) the acceptability of present standardized achievement tests as a criterion for placement for minority group children; (2) the liability of the evaluator; (3) the placement process; (4) the grouping of children by ability.

All states serve a classification of children generally referred to as mentally retarded. The major criterion for certification is an intelligence quotient derived from an individual psychological test administered by a state-approved or licensed psychologist. The most commonly recognized tests are The Stanford-Binet and The Wechsler Intelligence Test for Children (WISC). Other include The Bender Gestalt, The Draw-A-Person, and The Peabody Picture Vocabulary Test. The intelligence quotient (I.Q.) ceiling is usually seventy-five to seventy-nine (Abeson and Weintraub, 1971).

There have been four major court decisions directed at challenging the legality of placement of children in regard to their native language, cultural background and normative standardization. One case is Diana v. State Board of Education c-70 37 R.F.R. (Abeson and Bolick, 1974). Nine Mexican-Americans in January of 1970 filed suit in California on the basis that their Educable Mentally Retarded (EMR) school placements were due to testing procedures utilizing heavy emphasis on verbal skills requiring facility with the English

language, that the questions were culturally biased, and that the tests were standardized on white, native-born Americans. The court ruled that:

(1) Children are to be tested in their primary language; (2) Mexican-Americans and Chinese children in EMR classes had to be re-tested; (3) Special efforts are to be extended to aid misplaced children readjust to regular children; (4) The state undertake immediate efforts to develop and standardize an appropriate I.Q. test (Weintraub, Abeson and Bradock, 1971).

A similar case (Arreola v. Board of Education, Santa Anna School District No. 160,577) occurred with no court ruling presently.

A third case, Covarubias v. San Diego Unified School District, is similar to Diana except that the plaintiffs are black. Also, Stewart et al. v. Phillips et al. 70-1199-F, filed in October 1970 before the Federal District Court of Massachusetts on behalf of seven Black students, took another major step in the attack on intelligence testing and Educable Mentally Retarded placement (Abeson and Bolick, 1974).

Concerning the liability of the evaluator in Iverson v. Frandsen 237 F. 2d 898, Idaho (1956), parents of a nine year old girl brought suit against a psychologist at a state hospital for the mentally ill. A Stanford Binet test showed the girl to be a "high grade moron." Upon request by the school guidance counselor, the findings were forwarded to school officials.

The U.S. Court of Appeals ruled that "where a psychologist, as a public official, made good professional report on plaintiff's mental level....such report was free from actionable malice and was

not libelous" (Weintraub, Abeson and Bradock, 1971).

Placement processes involved with the exceptional child have tended toward the requirement for admissions committees to review the child's records and parental approval in the placement of the child in an Educable Mentally Retarded program.

In the 1961 case Van Allen v. McCleary 211 NYS 2d 501, the plaintiff sought a court order requiring the board of education to release the school records on his son. The court ruled in favor of the plaintiff noting that, "The parent's right (to the records) stems from his relationship with the school authorities as a parent who, under compulsory education, has delegated to them the educational authority over his child" (Weintraub, Abeson and Bradock, 1971).

The final issue to which an increasing body of legal examination is being given is the placement of children in self-contained special classes limited to children of a single ability classification. A recent case regarding ability grouping is Lake v. Cameron 364 F. 2d 657. In 1962 a woman was taken into custody by police in the District of Columbia after being found wandering about the city in a state of confusion. After psychiatric observation which indicated the woman was suffering from senility, the woman was committed to a mental hospital. It was noted that the woman was not a threat to the community, only a threat to herself. The U.S. Court of Appeals reversed the trial court and in doing so laid down an important principle:

Appellant may not be required to carry the burden of showing the availability of alternative....(She) does not know and lacks the

means to ascertain what alternatives, if any, are available, but the Government knows or has the means of knowing and should therefore assist the court in acquiring such information (Weintraub, Abeson and Bradock, 1971).

The most cited case of traditional special education programming is Hobson v. Hansen 269 F. Supp. 401 from the District of Columbia in 1967. The case centered around the question whether the "track system" utilized in Washington, D.C. public schools which separated children into five ability groupings was an illegal, discriminating practice (Weintraub, Abeson and Bradock, 1971).

These two "landmark" U.S. District Court decisions in 1971 started this new mainstreaming era in education for the handicapped. The first decision, in Pennsylvania, held that all mentally retarded children in that state must be provided with an education at public expense. The second, the District of Columbia case, extended that principle to cover all handicapped children.

In 1974, a legislative mandate for the education of the handicapped was passed by Congress. With enactment by the U.S. Congress of the Education Amendment of 1974 (Public Law 93-380) all state education agencies, in order to remain eligible for federal funds for exceptional children, were required to adopt a state plan that would include provision of adequate due process in educational decision-making (Abeson, Bolick and Hass, 1975). A key element of Public Law 93-380 is the requirement that handicapped children be placed for educational purposes in the least restrictive alternative setting. Mainstreaming is the educational term often used to describe

this programming principle. A survey of state policies in 1974 revealed that six states have laws mandating placement according to this principle, ten provide the authority through regulations, and the remainder do not as yet have any formal policy governing the programming principle (Bonham, 1975).

MAINSTREAMING PHILOSOPHY

Inherent in the philosophy of most mainstreaming programs is the child's basic right to an equal educational opportunity, where equal means not the same educational experiences but rather different educational experiences based on the child's unique needs (Gorsenick, 1971). Nearly all program descriptions express a belief that, for a majority of exceptional children, integration and not segregation should be the first consideration in designing educational experiences.

DEFINITIONS

Mainstreaming, like other social code words (e.g. busing) has come to have different meanings to many persons. Simply put, mainstreaming is based on the principle of educating most of the children in the same classrooms and providing special education on the basis of learning needs rather than categories of handicaps. Thus, under mainstreaming, children with learning problems can receive the expert help of special education teachers without being labeled or excluded from association with their peers. Under mainstreaming conditions, regular and special teachers share their skills and knowledge to teach the same children. Consequently, special education is a resource for the entire school rather than an isolated body of skills and knowledge (Birch, 1974).

It is important to recognize that not all exceptional children can be immediately integrated with other children in regular classes. This condition seems to be not so much a function of the children's handicaps as it is a function of the degree to which special edu-

cators have made the curricula, instructional materials, and teaching procedures sufficiently adaptable (Birch, 1974).

According to Kaufman (1975):

Mainstreaming refers to the temporal, instructional and social integration of eligible exceptional children with normal peers based on an ongoing, individually determined educational planning and programming process and requires clarification of responsibility, among regular and special education administration, instructional, and supportive personnel.

His definition encompasses three major components of integration. The first, temporal integration refers to the amount of time that a child spends in the regular classroom with nonhandicapped peers. It is generally assumed that temporal integration should be beneficial to the special child because it provides opportunities for him to become familiar to his nonhandicapped peers and, hopefully, more socially acceptable (Christopolos, and Renz, 1969). The more time special children spend in regular classes, the more they will be exposed to cognitive stimulation generated by the regular class.

Another integrative point Kaufman (1975) speaks of is that of instructional integration. This refers to the extent to which the mentally retarded child shares in the instructional environment of his classroom. For instructional integration to occur, conditions of compatibility must exist. A retarded child's learning characteristics and educational needs must be compatible with the learning opportunities provided to nonhandicapped peers in the regular class curricula (Innskeep, 1926; Kirk and Johnson, 1951). This is probably the most difficult component of mainstreaming to execute properly.

Social integration, Kaufman's (1975) final point on integration, refers to the exceptional child's physical proximity, interactive behavior, assimilation, and acceptance by his classmates. Social acceptance is the most valued element in the hierarchy of social integration because it more directly fulfills one of the child's most basic needs -- the need for approval (Jones, 1974). In a study conducted by Vogel (1973) nine severe learning disabled children were integrated into a junior high school core program. Results were favorable. The integration of severely learning disabled children in a combined homogeneous and heterogeneous organized structure appeared to have many educational, attitudinal, and social rewards. They cited greater awareness of individual needs, a need to provide structured lessons, opportunities to utilize contract teaching, and behavior modification.

Goldstein (1969) constructed a social learning curriculum stating the need for mainstreaming:

In a sense, by placing an exceptional child in a special class, we are saying that the probability of his becoming assimilated socially at maturity is small unless some kind of early intervention is supplied. In the case of educational intervention, the assumption is made that the child's experiences in the classroom will lead to a level and kind of critical thinking and independent action that will be consonant with demands of his environment at maturity.

Another study regarding social acceptance of educably mentally retarded children by nonretarded peers (Gross, 1974) revealed different results depending on urban or suburban school settings.

"When rated by children of the same sex, mildly retarded urban child-

ren achieved significantly higher peer ratings than nonretarded children whereas suburban mildly retarded children received significantly lower ratings than nonretarded children." Iano's (1972) study supports this finding. He makes the statement that children from urban inner city schools are generally low achievers and can be maintained in regular classes with periodic support from the resource room.

IMPETUS FOR MAINSTREAMING

The idea of placing mentally handicapped children in the mainstream of the school program gained impetus from a November 1968 article published in Exceptional Children. The author, L.M. Dunn, spoke out against the exclusive use of self-contained classes for the educable mentally handicapped. Dunn did not write for the abolishing of all special classes, but offered evidence to support the use of alternative programs.

In stating his reason for change, Dunn (1968) considers many points of weakness regarding the self-contained model of dealing with the education of the educably mentally retarded.

EFFICACY STUDIES

As Dunn (1968) suggests, an examination of the studies on efficacy of special classes is in order. Dunn (1968) cites Kirk's (1964) review as supportive of his contention that retarded pupils make as much or more progress in regular grades as they do in special education. According to MacMillan (1971), Dunn fails to include Kirk's mention of the pitfalls inherent in the studies which deal with special versus regular class debate:

1. Problems in sampling taking in situ groups to compare.
2. No control over the length of time spent in special classes prior to the evaluation.
3. Lack of a delineation of a special class, the curriculum or the teachers' qualifications.
4. Measurement instruments used in the studies were often improvised and therefore of questionable validity and reliability. (MacMillan, 1971).

In one study where educably mentally retarded subjects were randomly assigned to the treatments (Goldstein, Moss and Jordan, 1965), educably mentally retarded children in the regular class were found to achieve significantly better in reading at the end of a two year period. However, by the end of the four years the children in the self-contained classes had caught up to the former group. Johnson (1962) reviewed some fourteen research studies dealing with various aspects of the efficacy question. He found no strong supportive evidence in favor of the special class placement. Johnson postulated that the removal of exceptional children from the regular classrooms had also removed much of the competition and pressure to learn.

Iano (1972) in his article "Shall We Disband Special Classes?", appears to be in direct opposition to Dunn's (1968) point of view. Iano disagrees with proposals that discontinue the traditional diagnosis of children and placement in special classes. He examines the major reasons that have led educators to consider such practices desirable.

Among the most frequent arguments are that mentally retarded (a) require special teaching methods, because their learning characteristics or processes differ from these of normal children, (b) require special educational goals and curricula, (c) are con-

siderably below chronological age standards in achievement and general capability, and (d) are not accepted by other children in regular classes.

Iano (1972) concludes that "low achievement and lack of acceptance in regular classes do appear to be valid reasons for special class placement of mentally retarded children, but primarily because of the rigidity and arbitrariness of the conventional grade system."

A study with emotionally disturbed subjects designed to investigate long term changes in achievement, overt behavior, and social position was done by Vaac (1972). Changes were measured for two groups of emotionally disturbed children. One group had experienced special class procedure. Findings question the long range efficacy of special class intervention as the special classes do not result in long term changes for emotionally disturbed children in regular classes.

The teacher variable has an effect on the efficacy studies also. In a recent article, David (1970) argues that because of the demand for more and more teachers in classes for the mentally retarded, requirements for specific credentials are frequently modified or postponed.

IDENTIFICATION PROCESS

Another reason for change, Dunn (1968) feels is our past and present diagnostic procedures. Numerous minority children are inappropriately labeled as educably mentally retarded. Psychological testing, has become a singularly powerful and often abused tool for classification. Because psychological tests frequently discriminate

against minority and poor children and because they can lead to irreversible deprivation of opportunity, Hobbs (1975) recommends strict constraints on their use. Except for research purposes, he suggests educational and psychological tests should not be used with children at all.

Another approach to psychological testing would be to develop more objective means of assessing adaptive behavior which would be valid for use with borderline children of minority status. Such an attempt has been made by Mercer (1970) on an experimental basis. She has developed adaptive behavior scales and pluralistic norms providing an alternative to the strict psychometric classification system. Mercer (1970) identified a group of children she labeled as eligible I.Q. scores below 75, but for a variety of reasons were functioning adequately in the regular program. She notes the importance of considering other variables in addition to I.Q. regarding educably mentally retarded placement.

Culture-free or culture-fair tests have been developed in an attempt to make I.Q. testing more valid and reliable for particular subculture groups. Attempts to develop the culture-fair tests have not been successful because of the failure to recognize that intelligence, in part, is the summation of the learning experiences of an individual (Wesman, 1968). Therefore, intelligence tests cannot be created so that differential exposure to learning has no influence on scores. If the purpose is to predict the individual's ability to learn the content of the more general culture, tests de-

signed for the subculture will be less relevant than those which sample from the general culture. The acquisition of conventional verbal abilities will be needed if an individual is to progress in the general educational system and in the general culture (Anastasi, 1961; Vernon, 1965).

The BITCH Test (Black Intelligence Test of Cultural Homogeneity) is an attempt by Robert Williams (1972) at creating a culture-fair test for blacks. The BITCH presents one hundred multiple choice items in which a slang term is to be matched to a translation which may also be slang. The items of the test were selected for differentiation between blacks and whites, so blacks score considerably higher than whites. Williams sees success on the BITCH as evidence of "capacity to learn." (Buros, 1978).

EFFECTS OF PLACEMENT

Dunn (1968) mentions the effects of teacher expectations and self-fulfilling prophecies with regard to special education placement. Rosenthal and Jacobson (1968), in a series of studies, demonstrate that the attitudes and behaviors of experimenters tend to influence and bias the outcome of their experiment in the predicted way.

Shotel, Iano and McGettingan (1972) compiled a questionnaire measuring teachers' attitudes toward handicapped children. The purpose of their study was to determine how a program for integrating handicapped children into regular classes with supportive resource room services would affect the attitudes of regular class teachers

toward exceptional children. The results indicated the resource room program had slight to moderate effects on teachers' attitudes and raised questions concerning the feasibility of integrating educable mentally retarded children into regular classes in schools utilizing the conventional grade organizational pattern. Some interesting findings reported by teachers in this study were that many educable mentally retarded children did not academically and socially integrate well into their classrooms, even with supportive resource services. Also, teachers were generally more positive in their attitudes toward the learning disabled child than toward the emotionally disturbed and educable mentally retarded.

Warner, Shrapp and Walsh (1973) researched the "Attitudes of Children Toward Their Special Class Placement." For this study, three hundred sixty-nine educably mentally retarded children from various California school districts were interviewed. The interview inquired as to their opinion of their special classes for the mildly retarded. The findings of this study do not support the assumption that most retarded children resent their special class placement. Also, most mildly retarded children are fairly realistic in terms of their academic deficiencies.

EXPANDING CAPABILITIES OF GENERAL EDUCATION

Additional reasons leaning toward a mainstreaming philosophy in dealing with special education include a belief that general education can now serve the handicapped child. With its commercial or locally developed individualized instructional programs, flexible scheduling,

improved facilities, increased use of teaching teams, and better in-service training, general education can serve the exceptional child with a minimum of support help (Tann, 1974).

Christopolos (1973) explains management techniques for regular classes that will allow integration of ability without lowering the academic achievement of any child. She describes the use of inter-student tutoring, where one-to-one relationships in learning experiences are a most desirable condition for effective skill mastery. Tutoring also fosters cooperative attitudes, self respect, individualized rates of progress, and no rigid classification by ability.

Another system that could be employed by regular classroom teachers is Individually Prescribed Instruction (IPI). Scanlon (1971) states that Individually Prescribed Instruction is an instructional system based on specific objectives interlinked with diagnostic tools and teaching materials. It stresses assessment of pupil abilities and the continuous monitoring of pupil progress. The teacher's role in an Individually Prescribed Instructional approach becomes that of progress analyzer, tutor, and instructional manager in contrast to the more conventional teacher role of dispenser of instruction. The child's role in this type of classroom is that he acts as his own control on instructions that have been prescribed for him. As he finishes a piece of work to his satisfaction he turns it in to a teacher aid who scores it and informs the teacher of the student's progress. The teacher then re-prescribes work for him which coincides with that performance.

The audio-visual tutorial approach developed by Samuel Postlewaite can also be used by classroom teachers. Audiovisual tutoring employs an ordinary tape recorder as a programming device to guide and direct the learning activities of an individual student. Self-instruction is rapidly becoming an accepted method of learning, with teachers and administrators discovering that mediated independent study can be fully as effective as much traditional instruction. Under Postlewaite's system, students' attitudes toward the coursework improved noticeably and it was found that at least one-third more information could be presented in an equivalent amount of time (Postlewaite, Novak and Murray, 1964).

Another teaching method guiding independent learning is computer-based instruction which allows students to work at their own pace with a variety of programs. Formats vary according to the computer program. Some computer terminals permit the students to respond either by touching a "light-pen" to the correct answer on a screen or by speaking aloud (Erickson and Curl, 1972).

Behavioral learning theory, primarily developed by B.F. Skinner, has been applied to the school setting, promoting individualized instructional approaches to learning. Programmed instruction is one such method applied particularly to text books, where students are able to check the answers as they proceed. Material is presented in small successive steps along with the answers to the text material which are usually provided for the student in the margins of the book.

Performance contracting can also aid the regular classroom

teacher in structuring a learning environment. Performance contracts are an agreement between the student and the teacher based on the learning material to be completed by the pupil. Specific conditions about the learning format are stated in the contract which is usually written by the student. It then becomes the student's responsibility to perform the agreed upon tasks. Some system of rewards contingent on the completion of the goals set forth in the performance contract are also included. This serves as a motivating factor for the pupil.

RELATIONSHIPS BETWEEN ACADEMIC ACHIEVEMENT AND SELF-CONCEPT IN CHILDREN WITH LEARNING DISABILITIES

There is some evidence that the schools do not meet the problem of enhancing self-concept. As a group, elementary school children have difficulty maintaining positive self-concepts after they enter the school situation (Stanwyck, 1972). One implication of this finding is that school by its very nature has a detrimental effect on the self-image of children. There appears to be a steady downward trend of self-concept as the child meets the pressures across years of schooling (Felker, 1974).

Numerous empirical investigations of the relationship between self-concept and academic achievement have been reported. Leviton (1975) provides a rather extensive review of research since the middle 1950's. The measures employed for self-concept and academic achievement in the studies reviewed are diverse. In twenty-two of the studies where procedures were described, at least ten different instruments were used. Leviton concludes that a consistent moderate correlation

exists between academic achievement and self-concept. Black (1974) states that reported correlation coefficients have clustered around .30.

Recent studies by Primavera et al. (1974), Simon and Simon (1975), Cole (1974) and Busy et al. (1974) further support Leviton's conclusions of the observed relationship.

Primavera et al. (1974) investigated the relationship between academic achievement and self-concept along sex differences. Middle class subjects (male - 77, female - 103, mean C.A. = 11.06), were administered The Coopersmith Self-Esteem Inventory (SEI) and subtests from two standardized achievement tests. Self-Esteem Inventory data were collected for months after the achievement testing. All Pearson product-moment correlations were found to be significant between self-concept and achievement in the total male and female group.

Following the study by Primavera et al., Simon and Simon (1975) explored the relationship between self-esteem as measured by The Coopersmith Self-Esteem Inventory, SRA Achievement Series and The Lorge-Thorndike Intelligence Test. The correlation between The Self-Esteem Inventory and SRA scores was found to be .342 (p.05) for males and .337 (p.05) for females. This finding was interpreted as consistent with other findings.

Cole (1974) investigated the relationship between self-concept, attitude, achievement motivation and academic achievement of one hundred average third grade students. Data were collected using The Metropolitan Achievement Test and then eight months later The Children's Self-Concept Index and Children's Attitudinal Ranges Indicator. The

data yielded low (.173 to .262) positive and significant correlation coefficients ($p < .05$) for all academic achievement areas except spelling.

Busby et al. (1974) studies the relationship of self-concept, visual perception and reading in randomly selected seventh and ninth grade students. Instruments used were The Tennessee Self-Concept Scale, spatial visualization tests, and selected scores from The Stanford Achievement Test which had been previously administered. In terms of the correlation between academic achievement and self-concept, seven of the self-concept components yielded low, significant correlation coefficients (from .20 to .31).

The studies reviewed thus far offer support to the position that a significant, positive relationship exists between academic achievement and self-concept. Williams (1973) reported his investigation of self-concept and reading achievement in first grade children ($N=133$). Reading achievement was assessed using The California Achievement Test with self-concept data collected from an adaptation of Coopersmith's Self-Esteem Inventory. Data were collected at different time periods. Williams (1973) failed to find significant correlations between self-concept and reading achievement in either first or second grade. Three interpretations were offered: (1) that the age level of subjects may have influenced the relationship, (2) that self-concept of young children may be subject to wide fluctuation, and (3) that the modified Inventory may not have been sufficiently sensitive.

Marx and Winne (1975) investigated a predominantly black lower socioeconomic group of fifth and sixth graders. All children were ad-

ministered The Stanford Achievement Test and Sears Self-Concept Inventory. Findings suggest that the relationship between self-concept and achievement is weak.

The final studies directly related to the study presented herein investigated the relationship of academic achievement and self-concept in children with learning disabilities. Black (1974) studies twenty-five normal and twenty-five retarded readers using The Piers-Harris Children's Self-Concept Test and Wide Range Achievement Test. The level of self-concept for learning disabled children was found to be related to the degree of their underachievement. This result tends to support the hypothesis of the circular relationship between self-concept and achievement.

Contradictory findings were reported by Leviton and Kiraly (1975) based on The Metropolitan Achievement Test and Self-Concept Self-Appraisal Inventory (1970). Sixty-four learning disabled children in grades one, two and three were included who would seem to meet the 1968 National Advisory Committee's definition requiring exclusion of other primary handicapping conditions. No relationships of significant magnitude were found and the correlations were generally negative in significance.

PUBLIC LAW 94-142

The Education for All Handicapped Children Act (P.L. 94-142) is a new national law, signed by President Ford, November 29, 1975, which requires a free, appropriate public education for all handicapped children in the United States. The new law requires that all handi-

capped children between the ages three to twenty-one be served by September 1, 1980, in order for the states to qualify for federal funds. Special educational services must be provided at no cost to parents. Handicapped children are defined as the mentally retarded, hard of hearing, deaf, speech impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired, health impaired, and children with specific learning disabilities.

An individualized educational program which will meet the unique needs of the child must provide related services as needed. These related services may be transportation, speech pathology and audiology, psychological services, physical and occupational therapy, recreation, counseling medical services for evaluation and diagnostic purposes. The child's special education program must be developed with the participation of parents, teacher, local education agency, and the child himself, whenever appropriate. The program developed for the child must assure that -- whenever appropriate -- handicapped children will be educated with children who are not handicapped. Special classes and separate schooling are provided only when the nature severity of the handicap prevents achievement of a satisfactory education program in a regular class.

Other requirements of the Education for All Handicapped Children Act include:

- Non-discriminatory testing and evaluation.
- Regular parent or guardian consultation.
- Annual evaluation of effectiveness of special education program.
- Policies and procedures to make school records available to parents or guardians and protect confidentiality of data and

information.

- An effective policy guaranteeing the right of all handicapped children to a free, appropriate public education, at no cost to parents or guardian.
- A surrogate to act for any child when parents or guardians are either unknown or unavailable, or when the child is a legal ward of the state.
- Guarantee of complete due process procedure.
- Maintenance of programs and procedures for comprehensive personnel development including inservice training.
- Incentive grants for the removal of architectural barriers in educational facilities.
- Positive efforts to employ and advance qualified handicapped individuals in special education programs.

The Education for All Handicapped Children Act does not require that all handicapped children be educated in public schools. The act defines "free appropriate education" as special education and related services which have been provided at public expense, under public supervision and direction.

Strong federal funding incentives for the states to implement the requirements of P.L. 94-142 are built into the law - through the millions of federal dollars available to states who comply (and the loss of millions for states who do not comply). The payment formula is based upon a gradually escalating percentage of the National average expenditure per public school child - times the number of handicapped children served by each state. The percentage of federal dollars paid the states will increase annually until 1982, when it will reach a permanent ninety percent for that year and all subsequent years (Closer Look, 1977).

Birch (1974) has noted that some states have made it equally more feasible economically for local school districts to mingle

exceptional children and others while still providing the special education to the children who need it. This approach reverses past policy in which the school districts were rewarded for establishing separate special classes and schools.

ALTERNATIVES TO CATEGORICAL SPECIAL EDUCATION

Several educators in the field of special education have proposed theoretical models which have become the basis for many present mainstream programs. The resource model, the most common type, for executing mainstreaming services, will also be explained.

THEORETICAL MODELS

Dunn's (1968) forceful critique of special classes for the retarded resulted in a number of proposals for alternative delivery systems. Four models are presented. Each model describes a system which would be applied across most areas of exceptionality -- in most cases without attention to label.

Deno's Cascade of Services: Evelyn Deno (1970) perceives special education as the "research and development arm of regular education." Deno describes this system as one which "facilitates tailoring of treatment to individual needs rather than a system for sorting out children so they fill conditions designed according to group standards not necessarily suitable for the particular case." Deno's cascade of services recognizes the individuality of exceptional children by providing a wide variety of service options.

Lilly - A Training Based Model: Lilly (1970) offers a new definition of exceptionality which emphasizes the "characteristics of the

school situations and not the characteristics of the child." Lilly (1970) outlines a Training Based Model for providing services to exceptional children. Under this model the skills of the regular classroom teacher would be developed to the point where he/she no longer needs special education support:

Upon referring the child, a teacher would be offered the services of an instructional specialist whose function would be to instruct that teacher in ways to handle the referred problem. The task of the instructional specialist would be to equip the teacher to deal with the class as it exists to handle both behavioral and academic problems.

A final point in Lilly's model is the zero-reject system. Inherent in this policy is that "once a child is enrolled in a regular educational program within a school it must be impossible to administratively separate him from that program for any reason." (Lilly, 1971).

Gallagher's Contract Model: The Special Education Contract Model proposed by Gallagher (1972) is directed mainly toward mildly retarded, disturbed, or learning disabled primary age children. This model involves the adoption of a signed formal contract between parents and school officials prior to the commitment of a mildly handicapped child to special educational services. This contract would outline specific goals to be attained during the intervention program and would cover a time period no longer than two years. The contract would be renewable under a hearing with parents represented by legal or child advocate models.

Adamson's and Van Etten's Fail Save Model: The Fail Save Model

(Adamson and Van Etten, 1972) was published as a response to Lilly's (1971) proposed training based model. The authors suggested that Lilly's model may be too limiting in not offering enough alternatives for exceptional children. The proposed Fail Save Plan would include the training aspects of Lilly's model in addition to an adaptive system to the child's individual needs. Upon referral of a problem child, a methods and materials consultant begins ten weeks of evaluation and observation of the child. The consultant teacher conducts formal and informal testing of the child, recommends trial procedures and trial materials to the regular classroom teacher. At the completion of the ten week cycle, a conference of parents, teachers, and administrators is held regarding future action. Resource placement is recommended as the next step if the child is deficient for a period not longer than ninety days. At the end of ninety days, another evaluation conference is held and one of three decisions is made: (1) the child is returned to the itinerant cycle for ten weeks; (2) the child remains in the resource/regular class program for an additional ninety days; or (3) the child is referred for special class/resource room placement.

Rhodes -- An Ecological Model: Rhodes (1970) has developed an ecological model as an approach for dealing with the emotionally disturbed students. This model can be directly applied to the learning disability children possessing severe frustrational problems with regard to the learning environment. The social exchange or ecological model complements the growing trend within society to

take a critical look at the environment and its participation in mal-adaption. It parallels the activist orientation which is shifting major resources and energy sources toward remodeling environments rather than people.

RESOURCE ROOM MODEL

In an attempt to bridge the gap between special and regular education, the resource room service system has been developed. A resource room is basically any special education instructional setting to which a child comes for specific periods of time on a regularly scheduled basis for remedial instruction (Widerholt, 1974). The key difference between a resource and a self-contained special class is that the child attends the resource room only on a part time basis. The remaining day is spent in the regular classroom. The type of instruction the pupil receives is based upon his identified learning weaknesses and individually planned and implemented instructional program geared to minimize his problems. Inservice training with the regular classroom teachers regarding the learning curricula of the child is another aspect of the resource model (Reger, 1973).

MAINSTREAMING PROGRAMS IMPLEMENTED

Birch (1974) has conducted extensive research on the implementation and follow up of various mainstreamed districts in the United States. Several programs will be described as to significant features.

In general, the six programs Birch reviewed agreed on philosophy, the type of children served, inservice and procedures for the regular class teacher. Factors that varied from model to model were the extent

of parent involvement, the number of children served, cost factors, and administrative organization, teacher and parent involvement. For the most part, three different types of administrative organizations were employed for delivering mainstreaming services to the handicapped pupil.

A team approach was emphasized in several programs (e.g., Texas, California). Texas programs relied on Admissions, Review and Dismissal Committees (ARD) to assess the child's abilities. Parents, principals, and personnel from various educational disciplines were team members (Birch, 1974). In the Yuba City, California district, weekly individualized instructional planning for the children was done by regular and special education teacher teams.

Other programs rely heavily on itinerant special education personnel who serve as consultants to regular classroom teachers. In the Northwest Colorado Child Study Center, itinerant support services of a psychologist, social workers, and speech therapist were provided to support a special education resource person and the regular classroom teacher. The Oak Grove School District (San Jose, California) used the same format (Chaffin, 1974).

The majority of mainstreaming programs implemented in various states relied on the resource model (e.g. Tucson, Arizona; Tacoma, Washington; Richardson, Texas; Louisville, Kentucky; Minneapolis, Minnesota).

Chaffin (1974) reviewed studies dealing with differential effects of service placements for educably mentally retarded pupils. Tilley

(1970) and Rodee (1971) investigated three types of educational placements (itinerant, resource, self-contained) for mildly handicapped pupils. Tilley found no differences between the groups on measures of mathematics, reading, self-concept, and behavior. Rodee's investigation favored the resource group over the special class group in reading achievement.

Walker (1972) found that educably mentally retarded subjects in resource rooms were significantly better socially and academically than a control group of special class students. Hammill and Widerholt (1972) also support resource room arrangements. They reported an age increase of .7 of a grade in seven months of attendance which is considered to be a relevant gain since learning disabled children have weaknesses in achievement areas.

Koppitz (1976) reported a summary of certain results of a five year follow up study of one hundred seventy-seven children, ages six to twelve, who had been admitted to a public school program for children with learning disabilities. (The first report of the study was made in 1971.) The average age at admission was almost nine years; mean I.Q. of ninety-two, with a range from seventy plus to one hundred forty-three. The children's learning and behavioral disorders were varied, as were their social backgrounds and the diagnoses with which they had been labeled. The pupils showed combinations of emotional, behavioral and learning difficulties, and most displayed signs of minimal brain dysfunction. The study is detailed and includes a number of conclusions. The one that is most relevant follows:

Most of the youngsters who were able to return successfully to regular grades after only one or two years in the special classes (roughly one-fourth of the 177) probably would not have had to come to the learning disability program at all, if they had received the extra help and attention they required in the primary grades (Kopitz, 1976, p.47).

Newman (1959) studied six boys, aged eight to ten years, who showed "severe disturbances of learning and school adjustment" and were characterized as "hyperaggressive boys with behavior disorders." They were within the normal intelligence range. In 1954, at the beginning of the study, and throughout its three-year term, the boys were inpatients on a closed ward at the Clinical Center of the National Institutes of Health and attended school there. From the beginning the overall approach combined individual psychotherapy and a planned school program, the latter conducted by two special education teachers. By 1959, two years after the three-year intensive project was terminated, the boys were attending regular school full time. "They received only marginal individual tutoring from the teaching staff (of the Institute) on the request of their present schools" (Newman, 1959, p. 641).

TUCSON, ARIZONA MAINSTREAM MODEL

In Tucson, Arizona, approximately ninety-five percent of educably mentally retarded pupils in the elementary years are now mainstreamed for two-thirds or more of the day. The same is true of seventy-five percent of educably mentally retarded pupils at the junior high level. At the senior high level, about twenty-five percent are mainstreamed (Birch, 1974). Formal moves toward mainstreaming

started in 1969 when the Board of Education approved the following concepts (Ganoung, 1971):

1. Reorganize special education and name it Adaptive Education.
2. Program educably mentally retarded pupils into regular classrooms with special teachers organizing and implementing individual remedial services on a daily basis. Each educably mentally retarded student will have a class schedule designed for his individual ability basis. The scheduled activities are to be developed by the special teacher with approval of principal and regular teacher involved. Any teacher who accepts a special education student in the regular class may send an equal number of children needing special help to the special education teacher (Birch, 1974).

Tucson's teachers and administrators, regular and special, were aware that social and economic conditions restricted opportunities for many Indians, blacks and Mexican Americans. A comparative count showed clearly that these groups were enrolled in special education classes for the educably mentally retarded.

Inservice courses were conducted through the University of Arizona and others were informal sessions presented by the staff of Tucson Public Schools. A resource model of mainstreaming was adopted. The resource teacher is responsible for fifteen students by explaining their particular problem, and supplying materials and methods to help them adjust to the regular classroom. Resource teachers work with students on a one-to-one or small group basis daily in addition to consulting with the regular classroom teacher.

Close parental contacts by conferences and letters were kept. Parental permission had to be secured in writing before a psychologist could administer any test for the purpose of establishing an I.Q. There were found to be no important differences in cost between the

self-contained class way of educating and the integrated organized style. Also, there is no difference in state reimbursement.

SUMMARY

Public schools first provided day school programs for educable mentally retarded children in Providence, Rhode Island, in 1896. Stimulated largely by support from parents, groups, and professional organizations, special educational provisions for retarded pupils have expanded dramatically in the past seventy-five years, particularly in the past twenty years. In recent years, disenchantment with practices in special education has been evidenced in the activities of a wide spectrum of individuals and agencies. A number of authors have discussed the inappropriateness of special class placement for educating many children classified as mildly handicapped (Christopolos and Renz, 1969; Deno, 1970; Dunn, 1968; Johnson, 1962; Lilly, 1970). The article by Dunn (1968) has been a catalyst for much controversy and introspection among special educators over the issue of special class placement on mildly retarded children, particularly minority group children from low socioeconomic status backgrounds.

Empirical findings, legal pressures, and social consciousness have created heated debate over the issue of how the field of special education should respond to the needs of exceptional children. Little improvement in services to children is likely to accrue from demands to replace one form of organizational inflexibility with another. What is required is not simply that children in special classes be returned to regular classrooms with no further assistance, but rather

that a wide array of flexible service arrangements, intervention strategies, and support systems be designed to serve both handicapped children and their teachers (Bruininks and Rynders, 1971). Deno (1970) has recommended that special education serve as a vehicle for setting the general education system in competition with itself, initiating an internal challenge that will generate and sustain creative tension.

CHAPTER III

EXPERIMENTAL PROCEDURES AND STATISTICAL ANALYSES

INTRODUCTION

The present study attempts to evaluate a procedure intended to ease the mainstreaming process for the learning disabled children along with their regular classroom teachers. The purpose of the in-service program was to enhance cognitive and affective development of the learning disabled students through the knowledge gained by the teachers attending the various inservices. An additional intent of the present study was to alter the regular educator's attitudes toward the special child. It is also intended that the present types of class settings, resourced or self-contained classrooms, be evaluated in terms of achievement and self-concept of the learning disabled children.

HYPOTHESES

Statistically stated, the seven hypotheses of concern are:

- H_1 : There is no significant difference in achievement of resourced learning disabled children in the school where the teachers received the inservice training compared to the school where teachers received no inservice training.
- H_2 : There is no significant difference in achievement of self-contained learning disabled children in the school where teachers received the inservice training compared to the school where teachers re-

ceived no inservice training.

H₃: There is no significant difference in self-concept of resourced learning disabled children in the school where teachers received the inservice training compared to the school where teachers received no inservice training.

H₄: There is no significant difference in self-concept of the self-contained learning disabled children where teachers received the inservice training compared to the school where teachers received no inservice training.

H₅: There will be no significant difference in attitudes toward learning disabled children between teachers who received the inservice training and those who did not receive the inservice training.

H₆: There is no significant difference in self-concept between self-contained learning disabled children and resourced learning disabled children irrespective of the experimental manipulation.

H₇: There is no significant difference in attitude between teachers with special education courses and teachers without special education courses prior to the experimental manipulation.

SUBJECTS

Both the treatment and control groups are contained in Chicago Public Schools located on Chicago's far south side, representing a black lower middle class socioeconomic area. All children involved in the study (both experimental and control groups) have secured learning disability placement through testing done by a state certified school

psychologist. The results of the psychological evaluation, heavily weighted on The Wechsler Intelligence Scale for Children, determined the placement of the learning disabled children. Thirty learning disabled students comprised the treatment group and thirty children comprised the control group. The type of class placement where the learning disabled child receives remediation is a factor considered in this study. Of the thirty learning disabled children comprising the treatment group, fifteen of these children were randomly placed in a self-contained learning disability classroom and the other fifteen children were placed in a resourced learning disability classroom. The same classroom-type placement (self-contained and resourced learning disability classrooms) were used with the control population. Of the thirty learning disabled children in the control group, fifteen children were randomly placed in a learning disability self-contained classroom and fifteen children were in a resourced learning disability classroom. The ages of the subjects in both groups range from seven to fourteen years. The children participating in the study are those whose parents have consented in writing to testing. Those learning disabled children whose parents did not grant permission were not tested or included in the study.

Also subjects in this study are the teachers of the children at the two schools. Thirty-nine teachers comprised the control group and forty-two teachers were contained in the treatment group. Their range of teaching experience is one year to twenty-nine years. Most teachers are certified both by the State of Illinois and the Chicago Board of

Education. All teachers are certified by the State of Illinois.

DISCUSSION OF INSTRUMENTATION

Pre-testing and post-testing in the area of achievement (using The Wide Range Achievement Test) and self-concept (using The Piers-Harris Self-Concept Scale) were performed prior to the inservice sessions. All testing was administered by the adjustment teacher at each school, both experimental and controlled populations.

The Piers-Harris Children's Self-Concept Scale (PSCS) is an instrument designed to measure how a child feels about himself/herself. Factors (behavior, intellectual and school status, physical appearance, attribute, anxiety, popularity, happiness and satisfaction) are assessed by eighty items. For each item, the subject responds with either "yes" or "no" toward the statement. Raw scores are converted to percentile and stanine scores as compared with members of the normative group. Percentile scores were used in the present study.

The Piers-Harris Self-Concept Scale was standardized using 1183 public school children ranging from Grade Three to Grade Twelve. In the elementary grades, classes were chosen from several different schools, representing a cross section of socioeconomic levels in the community. In high school, low, average, and bright classes participated.

Reliability. The Kuder-Richardson Formula 21, which assumes equal difficulty of items, was employed with resulting coefficients ranging from .78 to .93. As a check, the Spearman-Brown odd-even formula was applied for half the Grade Six and Grade Ten sample with resulting coefficients of .90 and .87. A retest after four months on one half the

standardized sample resulted in coefficients of .72, .71, and .72, which were judged satisfactory for a personality instrument in the experimental stage over so long a period of time.

Validity. An attempt was made at the outset to build content validity into the scale by defining the universe to be measured as areas about which children reported qualities they liked or disliked about themselves (Jersild, 1952). Items were written to cover all these areas but during the item analyses non-discriminating items were dropped.

Mayer (1965) compared scores on The Piers-Harris with scores on Lipsitt's Children's Self-Concept Scale (1958) for a sample of ninety-eight special education students, twelve to sixteen years of age. He obtained a correlation of .68.

Children's self reports have typically corresponded only slightly with the way their teachers and peers rate them (Ulmann, 1952; Powell, 1948). Cox (1966) using subjects in grade six through nine from ninety-seven families, found appreciable correlations between Piers-Harris and teacher and peer ratings of socially effective behavior (.43 and .31).

The Wide Range Achievement Test (Jastak and Jastak, 1965) used both school aged children and adults in standardization procedures in known economic levels. In each age bracket, probability samplings based on I.Q.'s were studied to develop Wide Range Achievement Test norms that would correspond to the achievement of mentally average groups with representative dispersions of scores above and below the mean.

Three types of scores are used in reporting The Wide Range Achievement Test results: 1) grade ratings, 2) percentiles, and 3) standard scores based on grade ratings. Grade rating difference scores were used in the present study.

Reliability. The Wide Range Achievement Test satisfies the statistical conditions of reliability most adequately. Numerous population groups of different degrees of homogeneity have been studied by the authors during the past twenty years. The correlation coefficients for homogeneous groups ranged from .92 and .98 for reading and spelling and from .85 to .92 for the arithmetic test. The split-half correlation coefficients and standard errors of measurement were determined on samples of two hundred individuals selected in such a way as to represent probability distributions of achievement based on normative data. The split-half measures used were odd-even scores after the test items of each subject had been arranged in order of difficulty. Reliability coefficients of The Wide Range Achievement Test vary from .90 to .95 for each subtest with an average reliability of .93.

Validity. The reading scores of twenty-nine students in a fifth grade were correlated by Wagner (1962) with teacher's ratings of their achievement on a nine-point scale. The correlation between the reading grades and teacher's ratings in grade level was .78. The Wide Range Achievement Test levels and midterm grades correlated to the extent of .88. These coefficients were significant beyond .01 level of confidence. Wagner concludes that all his validity studies support Jastak's validity reports. B.S. Smith (1961) in a study of second grade

children found that The Wide Range Achievement Test scores agreed well with external criteria and proved highly sensitive in diagnostic surveys. Murphy (1963) studied the utility of the arithmetic subtests of The Wide Range Achievement Test. His conclusions based on his correlational and other analyses are: 1) There is a strong relationship between facility in arithmetical computation as shown by The Wide Range Achievement Test and math grades; 2) in the majority of changes from one instructional level to another, The Wide Range Achievement Test arithmetic score was found to be a reliable predictor; 3) persons who function at the high or low extremes of computational ability are more easily identified and classified by The Wide Range Achievement Test than by any other reliable method.

Also in use in this study is The Attitude Toward Handicapped Individuals Scale (ATHI) (Lazar, 1973), in order to measure the teachers' feelings toward the learning disabled students both before and after the inservice lectures and workshops. The Attitude Toward Handicapped Individuals Scale is a modification of The Attitudes Toward Disabled Persons Scale (ATDP) developed by Yuker (1966). The modification consisted of changing the term "disabled" to read "handicapped." The assumption being that "handicapped" is a much broader term than "disability," which is usually restricted in meaning to the physically disabled.

The Attitude Toward Handicapped Individuals Scale is a twenty-item instrument that has a possible score range from zero to one hundred twenty, a score of seventy plus indicating normal acceptance of the

handicapped (Lazar, 1973). Lazar and Denham (1974) reported a Pearson product moment correlation of .83 between The Attitude Toward Handicapped Individuals Scale and The Attitude Toward Disabled Persons Scale. In another study using a Pearson product moment correlation Stodden, Graves and Lazar (1973) reported a correlation of .80 between The Attitude Toward Handicapped Individuals Scale and The Attitude Toward Disabled Persons Scale. The latter study also found a coefficient of stability reliability of .73 using a test-retest after two weeks of separation between testing. The Attitude Toward Handicapped Individuals Scale has each item rated on a six point Likert-type scale as indicated below:

- +3 I agree very much
- +2 I agree pretty much
- +1 I agree a little
- 1 I disagree a little
- 2 I disagree pretty much
- 3 I disagree very much

EXPERIMENTAL PROCEDURES

In the present study, thirty children were given a planned mainstreaming program. Each of the children in the study met the following criteria for inclusion: 1) The children are identified by a state certified Chicago Board of Education psychologist as having learning disabilities. 2) The children have presently secured learning disability placement in the Chicago Board of Education public school system. 3) Written permission by the parents of the learning disabled students was granted in order for participation in the study.

Children in the treatment group had teachers (N=42) who received

the following forms of assistance to facilitate mainstreaming: inservice lectures, films, workshops and material demonstrations. This program was conducted at the Gompers Elementary School over a seven month time period. Inservice sessions were approximately forty minutes in length and prepared in manual form (see Appendix A). The adjustment teacher rated the lectures as to content after each session. The rating sheets are a checklist in outline form of the major points of the inservice sessions. These rating sheets can be found in Appendix F. The content of the inservice lectures was gathered from a variety of research, texts and journal publications in the fields of educational psychology and special education. Films were obtained from the Chicago Association for Children with Learning Disabilities. Remedial education materials were supplied on a loan basis by the Chicago Board of Education Special Media and Information Service (SEMIS). Appendix B reviews the materials demonstrated. This organization also presented a series of workshops to the teachers in the experimental group. The inservice series were as follows:

October 11, 1978: A workshop from Special Media and Information Service (SEMIS) was given on "Characteristics of Children with Special Needs." This workshop is appropriate for teachers who are confronted with the challenge of integrating the special needs student into their classrooms. The format of the meeting included viewing of an audio-filmstrip about the special child followed by a brainstorming session and hands-on examination of informative materials to use within the classroom.

October 25, 1978: A workshop from Special Media and Information Services (SEMIS) was given on "Learning Disabilities." It was an inservice program designed to familiarize the special educator with the learning and behavioral characteristics of children with specific learning disabilities. Practical suggestions for management and remediation of this type of child within the regular classroom were included.

November 8, 1978: A workshop from Special Media and Information Service (SEMIS) was conducted on "Organizing Your Classroom to Provide for Special Needs Students." This inservice meeting was appropriate for the receiving teachers, resource teacher and all school personnel involved in mainstreaming special education students.

November 22, 1978: A film entitled "Early Recognition of Learning Disabilities" was shown. This film has discussion of the general characteristics of learning disabilities as well as a good explanation of the problems in perception and abstract thinking.

December 7, 1978: A lecture and discussion on "Motivating the Child" was given to the teachers.

December 21, 1978: A lecture on the topic of "Theories of Learning" was administered to the teachers. A discussion followed.

January 4, 1979: A film from the Association for Children with Learning Disabilities was shown entitled "You're Not Listening." This film deals with a hyperactive third or fourth grader. It follows him through the first few weeks of school and points out all the ensuing problems that he and his new teacher must contend with because of his hyperactivity. The team approach to diagnosis results in the boy's placement in a learning disability resource classroom on a part time basis.

January 25, 1979: A lecture on the "Remediation of Perceptual Learning Processing Areas" was presented. The auditory learning channel was discussed with activities to help build strong listening skills.

February 1, 1979: A film was presented entitled "Learning Disability." In this film Learning Disabilities are described as minimal brain dysfunctions. The film broadly covers visual perception problems, language therapy, physical therapy, and special class placement. The team diagnostic approach was explained as was the idea that integration back into the regular class is the goal of the special class.

February 15, 1979: A lecture on the remediation of Perceptual Learning Processing Areas of Visual Perception was discussed. The following materials were demonstrated to ease visual perceptual difficulties in children: Continental Press, Inc., Fernald approach, Orton approach, and reading readiness activities.

March 1, 1979: A lecture on activities to "Remediate Learning Disabilities in Specific Subject Areas" was given to the teachers. The school subjects of spelling and reading were discussed. The

following materials were demonstrated: Palo Alto Reading Program, Programmed Reading, Language Experience Approach to Reading, Distar.

March 8, 1979: The lecture on "Remediation of Learning Disabilities in Subject Areas" was continued. Mathematics, handwriting and written language problems were discussed and activities to remediate each were given.

March 15, 1979: A lecture on "Self-Concept" was presented to the faculty. Developing Understanding of Self and Others and Focus on Self-Development kits are published materials which were demonstrated to enhance the self-concepts of the learning disabled children.

April 3-22, 1979: A lecture on "Humanistic Education" was given with accompanying activities for the teachers to use in their classrooms.

April 3-29, 1979: A film available through the Chicago Association for Children with Learning Disabilities was shown called "The Reluctant Delinquent." This film gives insight into the relationship of delinquency to learning disabilities. Documents of an actual case of a high school student, Robbie, locked up in maximum security in Juvenile Hall, are shown. Weekdays, he is released to attend special education classes. For the first time -- after eleven years of school failure -- he is learning to read and discover the joys of learning.

May 4-5, 1979: A lecture on "Behavior Modification" was presented. A discussion on classroom implementation followed the lecture.

A control group of thirty children was established. Children in the control group had the following characteristics: 1) the children were identified by a state certified Chicago Board of Education psychologist as having learning disabilities; 2) the children had presently secured learning disability placement in the Chicago Board of Education public school system; 3) written permission by the parents of the learning disabled students was granted in order for participation in the present study.

All children in the treatment and control groups were given the following tests: 1) The Wide Range Achievement Test and 2) The Piers-

Harris Self-Concept Scale. All teachers in the treatment and control groups were given The Attitude Toward Handicapped Individuals Scale. Pre-tests were given in September, 1978, and post-tests were administered in May, 1979 for both the teachers and the learning disabled students.

STATISTICAL ANALYSES

The seven basic hypotheses of concern are:

- H₁: There is no significant difference in achievement of resourced learning disabled children in the school where the teachers received the inservice training compared to the school where teachers received no inservice training.
- H₂: There is no significant difference in achievement of self-contained learning disabled children in the school where teachers received the inservice training compared to the school where teachers received no inservice training.
- H₃: There is no significant difference in self-concept of resourced learning disabled children in the school where teachers received the inservice training compared to the school where teachers received no inservice training.
- H₄: There is no significant difference in self-concept of the self-contained learning disabled children where teachers received the inservice training compared to the school where teachers received no inservice training.
- H₅: There will be no significant difference in attitudes toward learning disabled children between teachers who received the inservice training and those who did not receive the inservice training.
- H₆: There is no significant difference between the self-concept, self-contained learning disabled children and resourced learning disabled

respective of the experimental manipulation.

H7: There is no significant difference in attitude between teachers with special education courses and teachers without special education courses prior to the experimental manipulation.

To test the first two hypotheses, a multivariate analysis of variance (2X2) design was used with two independent variables. The two independent variables being the experimental/control condition (that is teachers in the school receiving inservice training and teachers in the school not receiving the inservice training) and the type of classroom setting (self-contained learning disability classroom-re-sourced learning disability classroom). Dependent variables are achievement scores in reading, mathematics, spelling and self-concept. The amount of change in months of achievement over a seven month period was used. The design is as follows:

	Self-Contained Classroom	Resourced Classroom
Inservice	ABC Gompers	ABC Gompers
No Inservice	Van Vlisingen	Van Vlisingen

To test the third and fourth hypotheses, an analysis of variance (2X2) model was used with the same independent variables as the previous model. Only one variable (self-concept measure) was used.

Inservice	Resource B	Self-Contained B
No Inservice	B	B

To test the fifth hypothesis, a t-test was used to test whether a significant difference in teacher attitude occurs between teachers receiving the inservice and those not receiving the inservice. A change score from pre-test to post-test on The Attitude Toward Handicapped Individuals Scale (ATHI) was the value considered in the t-test.

With hypotheses six and seven, the data were considered in relation to conditions before the inservice program, possibly affecting the results. Using pre-test scores, t-tests were run to determine significance with the last two hypotheses.

CHAPTER IV

PRESENTATION OF THE FINDINGS

The population for this study includes sixty learning disabled students in two types of class placements: resourced and self-contained. Improvement in the students' reading, mathematics and spelling achievement, along with their self-concepts, were to be measured after an inservice program was presented to the students' teachers. The teachers (N=81), who are also subjects in the present study, were to have effected an attitude change toward the handicapped as a result of the inservice training. Each teacher subject completed The Attitude Toward Handicapped Individuals (ATHI) both before the inservice program and again, after the completion of the inservice program to measure their attitude change. The learning disabled student subjects were administered pre-testing and post-testing with the use of The Wide Range Achievement Test (WRAT). Specifically, achievement areas measured were mathematics (computations), reading recognition (words), and spelling (written). The Piers-Harris Children's Self-Concept Scale (Piers-Harris) was the instrument used to detect the student subjects' change score regarding their self-concept in the beginning of the school year and at the end of the school term as a result of the teacher inservice program.

The total number of subjects in the sample group was one hundred forty-one. This sample consisted of teachers (N=81) and learning disability students (N=60). All teachers on staff at the Gompers Elemen-

tary school received the inservice training in the form of lectures (both verbal and written), instructional material demonstrations, films, and discussions. The aim of the inservice program was to enhance achievement and self-concept of the learning disability children in the school. Additional teacher variables considered to further explain the change in attitude toward the handicapped besides the inservice program included: years of teaching experience, sex of the teacher, and type of teaching certificate.

All student subjects in the sample group (N=60) were randomly placed in one of two settings for educating learning disabled children: the resource classroom and the self-contained classroom. By a resource classroom is meant that the learning disability children received remediation for their learning weaknesses from certified learning disabilities teachers for a portion of their school day outside of their regular classroom. A self-contained classroom is one in which the learning disabled children remain the entire day for remedial instruction under the direction of a certified learning disabilities teacher.

On the basis of the procedures outlined in Chapter III, several hypotheses were tested. Each null hypothesis was rejected only if the resulting statistic has a probability equal to or less than the .05 level; otherwise, the hypothesis was not rejected. Further, where the tests for an hypothesis reached this level of significance, additional procedures were used to determine what was contributing to that significance. The following are the results of the statistical analyses used in this study.

HYPOTHESIS I

There is a significant difference in achievement of resourced learning disabled children in the school where the teachers received the inservice training compared to the school where teachers received no inservice training. Therefore reject the null hypothesis.

A multivariate test for Hypothesis I indicated that there was significant difference in achievement for the resourced learning disabled children in the school where teachers were inserviced as compared to the school where they were not inserviced. The level of significance was .017 (see Table 1). A univariate analysis of the three dependent variables (mathematics, spelling and reading) was done to determine exactly in which areas significant gains were made. Significant improvement in achievement occurred only in the area of mathematics.

In Table 2 the mean value for each group was expressed in change scores. Students were compared pre-test and post-test on the basis of their achievement levels in years and months. A significant mean change score of 2.153 in the area of mathematics achievement was found for children in the school receiving the inservice as compared to a mean change score of only .133 (Table 2) in the schools where no inservice training was given. Spelling achievement, along with reading achievement, did not prove to be significant (.600 and 1.033 respectively).

HYPOTHESIS II

There is no difference in achievement of self-contained learning disabled children in the school where teachers received the inservice training compared to the school where teachers received no

Table 1
 One Way Multivariate Analysis of Variance for Resourced
 Classes on the Wide Range Achievement Test (WRAT)

Univariate Analysis				
Variables	F	Means Square	P	
Math	9.43	30.60	.005*	
Spelling	.30	0.40	.585	
Reading	1.90	5.72	.179	

Multivariate Analysis				
Test of Root	F	DF	DF Error	P
	4.04	3.0	26.0	.017*

Table 2

Mean Value and Standard Deviation (SD) for each Group Change Scores

Pre and Post for the WRAT and The Piers-Harris Childrens Self-Concept Scale (Piers-Harris)

Factors		N	Math		Spelling		Reading		Self-Concept	
Class Type	Teacher Orientation Type		Mean	SD	Mean	SD	Mean	SD	Mean	SD
Self-Contained	Inservice	15	1.180	.420	.447	.450	1.060	.445	2.333	4.117
Self-Contained	No Inservice	15	.773	.465	.513	.387	.733	.501	2.200	6.178
Resourced	Inservice	15	2.153	1.018	.600	.990	1.033	.684	2.200	6.559
Resourced	No Inservice	15	.133	2.336	.367	1.305	.160	2.354	-13.733	31.497

service training. Therefore do not reject the null hypothesis.

A multivariate test was run to determine whether there was any significant difference in achievement for the self-contained learning disabled children in the school where teachers received inservice training compared to the school where teachers received no inservice training. Since the P value was .094 (see Table 3) this hypothesis cannot be rejected. The significant P value for mathematics in the univariate tests of the dependent variables (mathematics, spelling and reading) cannot be considered.

A test of interaction (see Table 4) was done to determine if the main effects (inservice or non-inservice and resourced or self-contained classrooms) were interacting in some way. The results were not significant. Because significant results were not found for this hypothesis, it is apparent that the significant results on the test for teacher orientation (see Table 5) is not due to the self-contained setting but is due to the resource setting as shown by the results in Hypothesis I.

HYPOTHESIS III

There is no significant difference in self-concept of resourced learning disabled children in the school where teachers received the inservice training compared to the school where teachers received no inservice training. Therefore do not reject the null hypothesis.

The results depicted in Table 6 show no significant results due to inservice training of the teachers.

Table 3
 One Way Multivariate Analysis of Variance for
 Self-Contained Classes on the WRAT

Univariate Analysis					
Variables	F	Mean Square		P	
Math	6.32	.240		.018	
Spelling	0.18	.033		.667	
Reading	3.56	.800		.069	

Multivariate Analysis					
Test of Root	F	DF	DF Error	P	R
	2.36	3.0	26.0	.094	.463

Table 4
 Multivariate Analysis of Variance on the WRAT.
 Achievement Scores: Math, Reading, Spelling

Variable	Univariate		
	F	Means Square	P
Math	5.672	9.761	.021*
Spelling	.445	.338	.508
Reading	.694	1.121	.408

Multivariate Test of Interaction
 Teacher Orientation Type and Class Type

F	DF	DF Error	P	R
2.577	3	54	.063	.354

Table 5
Univariate Analysis of Variance on the WRAT

Variable	F	Mean Square	P
Math	12.833	22.083	.001
Spelling	.137	.104	.712
Reading	3.344	5.400	.073

Test of Teacher Orientation Type (Inservice or No Inservice)

F	DF	DF Error	P	R
5.323	3	54	.003*	.478

Table 6
 Test of Class Type (Resourced or Self-Contained)

Variable	F	Mean Square	P	Self-Contained	Resourced
Math	.242	0.417	.625	.9767	1.1433
Spelling	.000	.000	.988	.4800	.4830
Reading	.836	1.350	.364	.8967	.5967
Self- Concept	3.550	968.000	.065	2.2667	-5.7667

HYPOTHESIS IV

There is no significant difference in self-concept of self-contained learning disabled children where teachers received the inservice training compared to the school where teachers received no inservice training. Therefore do not reject the null hypothesis.

The results regarding this hypothesis are found in Table 6.

HYPOTHESIS V

There is a significant difference in attitudes toward learning disabled children between teachers who received the inservice training and those who did not receive the inservice training. Therefore the null hypothesis may be rejected.

Attitude change scores for the teachers on the ATHI Scale illustrate a significant P value of .008 (see Table 7). The teacher attitude change score for the inservice group is -2.105 while a 2.071 attitude change score was attained for the teachers receiving no inservice. A t-test was the statistic in use for arriving at the results of this hypothesis.

HYPOTHESIS VI

There is no significant difference in self-concept between self-contained learning disabled children and resourced learning disabled children irrespective of the experimental manipulation. Therefore do not reject the null hypothesis.

A t-test statistic was used with results shown in Table 8 and Table 9.

Table 7
Attitude Change for Teachers Pre and Post on the
Attitude Toward Handicapped Individuals Scale (ATHI)

Teacher Orientation Type vs. Attitude Change			
	Mean	F	P
Inservice	-2.105	2.37	.008*
No Inservice	2.071		

Table 8
 Group Mean Values for WRAT and Piers-Harris Pre and Post
 Scores for Teacher Orientation Type and Class Type

Variable		<u>Teacher Orientation Type</u>					
		Inservice	No Inservice	t	Inservice	No Inservice	t
		Pre	Pre	Pre	Post	Post	Post
Math	M	2.64	3.03	-1.12	4.31	3.48	1.92
	S.D	1.40	1.28		1.739	1.599	
Spelling	M	1.28	1.44	-.67	1.80	1.88	-.27
	S.D	.815	1.025		.836	1.326	
Reading	M	2.34	2.85	-1.34	3.39	3.29	.24
	S.D	1.357	1.537		1.426	1.686	
Self-Concept	M	72.70	71.00	+.30	74.90	65.20	2.41
	S.D	19.212	24.051		17.766	27.589	

Table 8

Group Mean Values for WRAT and Piers-Harris Pre and Post
Scores for Teacher Orientation Type and Class Type

Variable		<u>Class Type</u>					
		Resource	Self- Contained	t	Resource	Self- Contained	t
		Pre	Pre	Pre	Post	Post	Post
Math	M	3.43**	2.24	-3.78	4.57*	3.22	-2.70
	S.D	1.39	1.007		2.012	.968	
Spelling	M	1.72**	.99	-3.30	2.20*	1.47	-3.41
	S.D	1.026	.643		1.345	.595	
Reading	M	3.37**	1.82	-4.86	3.90*	2.70	1.93
	S.D	1.446	.996		1.769	.967	
Self- Concept	M	70.10	73.50	.61	60.40	75.80	-.43
	S.D	22.122	21.29		26.221	19.243	

*Significant Difference between groups
after treatment .01

**Significant Difference between groups
before treatment .01

Table 9
 Pretest Self-Concept Mean on Piers-Harris for Class Type

Variable		Self-Contained	Resourced	P	t	df
Self- concept	M	73.6	70.16	.546	.61	29
	S.D	21.299	22.122			

HYPOTHESIS VII

There exists a significant difference in attitudes between teachers with special education courses and teachers without special education courses prior to the experimental manipulation. Therefore reject the null hypothesis.

Table 10 shows a comparison of teachers' attitudes before the experimental manipulation on the ATHI Scale. A significant alpha level of .009 was obtained.

Neither the sex of the teacher nor the teaching certificate type (K-3 or 3-8) had any bearing on these results (see Table 11). T-tests were run for each.

Table 10

Teachers' Attitudes Before Experimental Manipulation on the ATHI

	S.D	Mean	P	t	df
No Special Education Courses	13.744	82.2	.009*	1.42	78
Yes Special Education Courses	12.987	78.1			

Table 11
 Teacher Attitude Change Score by Certificate Type
 and Sex on the ATHI Scale

Certificate Type	df	Type I (K-3gr.)	Type II (3-8 gr.)	t
	70 M S.D	1.66 10.175	-1.3 9.650	1.24
Sex		Male	Female	
	70 M S.D	0.72 10.022	-3.38 5.980	1.42

CHAPTER V

DISCUSSION OF THE RESULTS

Following is a discussion of all hypotheses with possible reasons for the obtained outcomes.

HYPOTHESIS I

There exists a significant difference in achievement of resourced learning disabled children in the school where the teachers received the inservice training compared to the school where teachers received no inservice training.

On the basis of the data gathered in this study, this hypothesis cannot be rejected. The learning disabled children in the resource setting made significant gains in achievement areas where the teachers attended the inservice sessions. The inservice program alerted the regular education teachers to methods and techniques useful in teaching learning disabled children. The actual achievement area where the inservice had the most significant results was in mathematics. This could possibly be due to a kind of novelty effect because mathematics isn't as emphasized as reading with the Chicago Public Schools. Learning disabled children seem to have more negative attitudes toward reading. They might also associate their learning failure with reading rather than mathematics because this subject (reading) is particularly emphasized within the Chicago Board of Education.

Like reading, spelling achievement showed no appreciable difference

in relationship to either educational class setting or inservice training. Spelling remedial procedures, presented in the lectures (see Appendix A), need further development as to methods and approaches the teachers should employ to enhance student achievement. Also, another factor that could account for the lack of significant results in spelling is that teachers did not appear to spend much time teaching spelling. The requirement of the Board of Education Time Distribution Schedule incorporates spelling with language arts instruction. The time allotment is charted as forty minutes. However, both subjects (spelling and language arts) are included in the time period.

HYPOTHESIS II

There exists no significant difference in achievement of self-contained learning disabled children in the school where teachers received the inservice training compared to the school where teachers received no inservice training.

The self-contained learning disability class in the school receiving the inservice showed no significant gains. Teachers of the self-contained learning disabled children, all of whom were state certified in learning disabilities, did not profit from the inservice training. All of these teachers of the self-contained learning disabilities children had special education training prior to the inservice program implemented in this experimental study. The self-contained learning disabled children did not improve any more than the control setting.

HYPOTHESIS III

There is no significant difference in self-concept of resourced learning disabled children in the school where teachers received the inservice training compared to the school where teachers received no inservice training.

The notion that the self-concepts of the learning disabled children would be enhanced because of the inservice sessions was not proven to be true in either type of educational setting. The self-concept change scores were very close in both inservice settings (2.333 and 2.200). However, the F statistic of .065 (Table 6) is approaching significance. The change scores of the self-contained control situation was also similar to the inservice results regarding self-concept of the students. The resourced control group of learning disabled children portrayed dramatically different results in terms of change scores. A -13.733 mean value difference score was secured for this group (Table 2). Perhaps, this can be attributed to the fact that the resource learning disabilities teacher took a two month maternity leave and varying day to day substitutes filled her position for that time. According to the building principal, on several occasions during that time, the resource learning disabilities classes were cancelled and thus the learning disabled children received no remedial instruction on those days. Teacher consistency does appear to account for relatively stable scores with the other three settings (experimental group of resourced and self-contained learning disabled children along with the control group of self-contained students).

More techniques for teaching children to have a positive self-

concept are needed. This part of the lecture inservice series was not emphasized as much as achievement and perceptual remediation because of the lack of methods, materials, and sound theories to use in enhancing self-concept.

HYPOTHESIS IV

There is no significant difference in self-concept of self-contained learning disabled children where teachers received the inservice training compared to these in the school where teachers received no inservice training.

Because the area of self-concept is very broad and tests of self-concept cannot measure all variables involved, it is possible that changes occurred which The Piers-Harris Self-Concept Scale did not measure.

There are many problems that affect self-concept testing in general. Responses can be biased by the way the person interprets the question. Faking can occur if the person does not want to reveal a true picture of himself. Reliability on self-concept tests is much lower than achievement tests. The length of The Piers-Harris was too long for some learning disabled youngsters with attention span and auditory processing disorders. Fatigue factors were noted also. It appeared as if children fell into a response set pattern. Some answered the questions randomly while others perseverated responses pointing out that they did not really listen to the question asked in either case. This was due to the "yes" or "no" format needed in answering all eighty questions of The Piers-Harris Scale.

HYPOTHESIS V

There exists a significant difference in attitudes toward learning disabled children between teachers who received the inservice training and those who did not receive the inservice training.

The null hypothesis was rejected because of a significant difference at the .008 level, listed in Table 7. The direction of the mean score of the teacher inservice group (-2.105) revealed a lowered attitude change score regarding the handicapped child. Teachers who did not receive the inservice program had increased attitude change scores. An increase in attitude according to The Attitude Toward Handicapped Individuals Scale (ATHI), means that the teachers viewed the handicapped child as relatively the same as a non-handicapped child. A transformed score of seventy and above indicated that less difference is noted between handicapped and non-handicapped individuals on the part of the teachers completing the questionnaire. The more difference one sees between handicapped and non-handicapped individuals, the lower (less than seventy) the score.

The inservice program called attention to a variety of teaching methods and approaches to use in educating learning disabled youngsters. It was stressed that learning disabled children could possibly benefit from many of the teaching approaches described. The inservice program seemed to be perceived by the teachers as "different" educational procedures to use with children with learning problems. Therefore, it appears that a decrease in attitude change score on The Attitude Toward Handicapped Individuals Scale does not necessarily indicate a more

negative attitude toward the handicapped but rather an awareness that handicapped children have individual needs.

HYPOTHESIS VI

There is no significant difference in self-concept between self-contained learning disabled children and resourced learning disabled children irrespective of the experimental manipulation.

The results of this hypothesis in the present study are illustrated as shown on Table 9. The type of classroom setting did not reveal significant self-concept differences before this experiment (Table 9) or after the inservice treatment (Table 2) was employed. Again all the problems inherent in self-concept tests would apply here.

Even when mean IQ scores were considered for each group, there was no difference in self-concept. Table 14 points out that the group mean IQ's are relatively the same for all groups.

HYPOTHESIS VII

There exists a significant difference in attitudes between teachers with special education courses and teachers without special education courses prior to the experimental manipulation.

The null hypothesis was rejected because of data gathered in Table 10. Significant results were found at the .009 level. Results of Hypothesis VII support the findings of Hypothesis V.

The results show that special education courses taken by teachers prior to the inservice training caused a "decrease" in attitudes toward the handicapped child. Perhaps the word "difference" should be used rather than "decrease." These results were gathered from the pre-test

scores on The ATHI Scales completed by the teachers in September, 1978. This implies that formal special education programs just as the present inservice program, tend to stress the different types of methodology used in work with learning disabled children. On The ATHI Scale, it was apparent that those teachers with special education training (prior to the inservice) did view handicapped children as "different" from the norm. The more difference noted in the handicapped individual as perceived by the teacher completing The ATHI Scale, the lower (less than seventy) the score. Similarly, after the inservice program was completed, significantly reduced difference scores on The ATHI Scale were found as demonstrated by Hypothesis V. The present inservice program seemed to have the same effect on the teachers as special education courses. That is, knowledge was gained as to educating learning disabled children in the areas of achievement and self-concept and this ultimately affected teachers' attitudes by seeing these children as different than the norm.

In order for success of the learning disabled child in a mainstreamed setting, regular educators should be alerted to individual learning styles present. Ideally, if all educational instruction could be individualized, differences among children would be perceived as a positive concept. Individuality should be the goal for all students, especially within the mainstreamed educational setting.

It is unrealistic to think that handicapped children will learn and act as the "norm." Their experiences since birth have differed. Coping and compensation skills are probably more advanced than those of the

so-called normals who have not had to encounter the amount of frustration handicapped children face.

RECOMMENDATIONS FOR FURTHER STUDY

The outcomes of the current study have provided a basis upon which to select areas of concentration for future studies. The results of Hypothesis I revealed significant gains in achievement. A particularly promising topic would be to investigate whether learning disabled children in a self-contained class or a resource room would do better in achievement. In other words, which type of classroom would be more appropriate. This type of research would aid school administrators in making decisions about the most effective setting for educating learning disabled children.

In regard to Hypothesis III and Hypothesis IV, the study could be run again using a different measure of self-concept. However, finding another appropriate measure may be difficult considering the vast problems under the realm of learning disabilities. A self-concept measure involving reading could be misinterpreted because of the large quantity of learning disabled children with reading disorders. A projective type of self-concept test (usually drawings) could yield contaminating results considering that visual perceptual motor problems can occur in learning disabled children. Verbal expression, likewise on the projective-type self-concept test could be a hinderance to accurate results. Verbal self-concept measures with questions read orally by the examiner, could be misinterpreted by children with attention span or auditory processing difficulties.

Hypothesis V alludes to a promising topic of inservicing teachers who have voluntarily accepted handicapped children in their regular classrooms. Resentful attitudes would then be avoided and most likely the self-esteem of the child would not be in jeopardy. Supplying additional incentives to the inservice program would help promote people to take part in a voluntary inservice program. For example, graduate credit could be awarded at the end of the inservice sessions for those participating. This credit will ultimately be expressed monetarily as a salary lane increase.

CONCLUSIONS

As a result of inservice training, achievement scores of the children were increased and teacher attitudes were altered. It is probable that inservice procedures are effective as benefits were gained by both teachers and learning disabled students. Self-esteem areas must be further investigated both in terms of fostering positive self-concept development along with accurate measures of self-concept. In the review of the literature section of this study, it was cited that a positive self-concept is supposed to facilitate learning. If this is true, self-concept gains on the part of the learning disabled children must have occurred that were not measured. Since more groups showed gains in achievement over self-concept, it might be that The Wide Range Achievement Test was more reliable in depicting the achievement gains than The Piers-Harris Children's Self-Concept Scale was in depicting self-concept gains.

From a naturalistic observation point of view, it appeared to this

researcher that the self-contained children were more confident. Statistically, this did not prove to be true. The major advantages of the contained classes for the handicapped is the rapport present between the teacher and students and also the ease in which instruction can be individualized. Both of these conditions are probably due to the small class membership (15) in this type of class. It would be ideal if these principles could be applied to the regular classroom. One attempt would be to have special educators be a resource to the general education faculty. In this situation, assignment of a special education teacher to the primary, intermediate, and upper grade departments could possibly prove more beneficial because of the consistency and immediate feedback that could occur throughout the year. The job description of the special education teacher would include planning and implementing individual educational plans for the learning disabled children, providing instructional materials and helping the special student cope within the regular class setting. In this type of a program, the special educators could work within the regular classroom in cooperation with the general educator, the major goal being to individualize instruction as much as possible.

The mainstreamed educational setting is more realistic in terms of circumstances the exceptional child will experience after he leaves the academic world. Supposedly, he will not be as threatened to work and live with the "normal" population at this has been the exposure during the school years. Philosophically, this is the advantage with mainstreamed educational settings. Realistically, integration into the

"normal" world can not begin to be facilitated by the handicapped youngster unless plenty of positive experiences have been attained. Supportive teachers appear to be the major component within the school setting to make these experiences happen.

The success of mainstreamed programs for handicapped children also depends upon the regular classmates attitudes toward the exceptional child. The literature in this area cites that exposure to handicapped children is the most effective way of altering positive attitudes. Daily interaction of "normal" and "special" children would tend to point out more similarities between the two groups rather than differences. In the present study, neither type of placement proved to be the better where self-concept was the variable measured. However, achievement scores depicted more of a gain within the mainstreamed setting. Perhaps, with exposure to the "normal" students, some type of modeling or motivating behavior on the part of the learning disabled children occurred which helped advance their achievement scores. Mainstreamed placements appear to be the recommended procedure for dealing with learning disabled youngsters as significant achievement gain scores were obtained. Social acceptance through academic endeavors could be the first step to positive self-esteem for learning disabled children. Enough academic successes could foster positive self-concepts for the learning disabled child. While, at the same time, positive attitudes toward the learning disabled children would be forming by their "normal" peers within the mainstreamed placement.

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APPENDIX A
INSERVICE LECTURES PRESENTED TO TEACHERS

Motivating The Child

The term motivation is commonly used to refer to inner tendencies which when aroused, direct and maintain behavior toward a goal. All animals, including humans, behave in a motivated fashion. In man, behavior is purposeful, usually goal-directed, and to a great extent is determined by external demands and pressures. While there is much controversy as to whether motivation is basically intrinsic (Ausubel, 1968) or extrinsic, the position assumed here will be that motivation is primarily extrinsic and that different factors within one's environment determine the extent and type of motivation within the child. If one follows the basic tenets of the work of Atkinson (1964) who suggests that such things as pleasure, pain, joy, and fear are strong motivators, one might view motivation as the disposition to behave so as to attain positive affective experience.

If one assumes that many motives have a social or psychological basis, then the theory must include learned needs as well as the original hedonism proposed by Thorndike (1913) who suggested that a deprived physiological state was what compelled the animal to act. In the process of behaving, the organism changed his physiological status from deprivation to satiation. This, in hedonistic terms, was seeking pleasure while avoiding pain, an idea somewhat similar to that advanced by McClelland and Atkinson some fifty years later.

Needs Theory

Needs theory avoids the necessity for assuming a physiological basis for motivation. A need is considered to be a deficiency within an individual, which is met when a specific behavior adequately satisfies the need. It differs from Thorndike's theory in that it recognizes specific deficiencies and their causes and does not center on a primary need state as such.

One of the more elaborate needs systems was devised in 1938 by Murray. He listed twelve physiological needs and twenty-eight psychogenic needs. The twenty-eight psychogenic needs were listed in five broad categories which are: 1) Needs associated with acquiring and retaining inanimate objects. 2) Achievement striving needs. 3) Prestige and esteem needs. 4) Needs associated with power relationships to others. 5) Needs associated with emotional and social relationships to others.

Maslow's Hierarchy of Needs

A considerably more popular categorization of individual needs was established by Maslow in 1943. Maslow felt that motivation had a broader basis than basic drives, although he recognized physiological needs

as strong motivators. Essentially, factors within an individual which guide his behavior have been arranged by Maslow in a hierarchial fashion.

In Maslow's system, basic needs must be met. They serve as the basis for seeking other needs. Unless such needs are met, an individual might never seek safety needs because they are relatively unimportant if physiological needs are not satisfied. Maslow refers to physiological needs as deficiencies and contends that as long as deficiencies exist, the individual is not free to seek out other needs. Yet, it is the other needs which enlarge the scope of human functioning and understanding. Therefore, physiological needs, being prepotent to the other needs in Maslow's hierarchy, must be satisfied.

Once physiological needs are satisfied, the individual seeks to satisfy safety needs. Such needs refer to the desire for good health and security from harm or danger to the physical self. Maslow contends that the major outcome of attaining safety needs is the desire to seek and give love to others, the third need category on his hierarchy. One seeks to share with his immediate circle of friends, i.e., family, sweetheart, wife, children, so that he may (a) assure himself of being loved as well as (b) know he is accepted by others. An inability to love and belong may motivate a person to act in many different ways to gain such acceptance. Often, a lack of satisfaction of this need becomes apparent as an individual attempts to use achievement as a substitute for love.

Maslow assumes that if an individual has been able to satisfy the lower needs on a hierarchy that he has a strong desire to be himself, or self-actualized. This need has to do with developing one's potential or becoming what one is capable of becoming. It is a search for making behavior consistent with what one is. Furthermore, Maslow contends that if an individual has satisfactorily met the other four needs, then the need for self-actualization is potent enough to serve as motivation for that individual's behavior.

Competition

One strong motivating factor can be a self-imposed standard of excellence. This is associated with the need to achieve mastery of one's environment. Self-imposed competition may be inferred from the "disposition to strive for the attainment of self-imposed standards of good performance or to strive for the attainment of personally accepted, long term achievement goals and by the capacity for satisfaction in the attainment of those goals (Talbert 1968, p.5)." Self-imposed standards can be strong motivators. All too often one's environment is geared around a different motivational-competitive source, competition with others.

When we speak of competition with others, we are talking about a student being motivated to learn or achieve in order to do as well as or better than his peers. A recent investigation by Clifford (1971) indicates that competition with one's equals followed by reward is an effective motivational source. It is interesting that Clifford found more of a preference for this kind of competition than for unequal competition. Students valued reward or recognition when it was gained in competition against one's equals, but not when the competition was against those who were poorly matched in ability.

Affiliative Motivation

Individuals are motivated to gain approval from peers and adults significant to them. The incentive is the attraction to another person or persons in order to gain self-assurance that one is acceptable to others (Birch & Veroff, 1966). Affiliation is a strong social motive. Many children express the need for affiliation with adults. It is generally evident by the tendency to strive to establish, maintain, or restore a positive affective relationship with adults. Within the school structure this may be expressed by the need to be accepted by authorities. Typically, the child sees the classroom environment which is controlled by the teachers and which demands some degree of obedience and respect. In order to minimize conflict and to gain acceptance by the teacher, the student often conforms to the established expectancy level. As a child advances from one grade level to the next there may be a growing conformity to the teacher's expectancy or an emerging tendency to build stronger affiliations with one's peers. It is not uncommon, eventually, for an individual's own needs to shift and no longer be so strongly motivated by adult approval. As this occurs, peer affiliate motives often become stronger (Thonburg, 1973).

When we speak of peer affiliative motives, reference is made to the need to gain acceptance and approval among age-mates. Children are motivated to establish a positive affective relationship which is often facilitated by (a) responding favorably to peers, (b) conforming to expected peer behaviors, (c) working cooperatively with peers toward a common goal, and (d) enjoying the interaction between self and peers.

Friendships with one's age-mates represents normal affiliative motives. The extension of one's self beyond his family or school setting allows socially approved behavior patterns to emerge. It is commonly held that children have subcultures of their own and are often motivated to do things which although acceptable by peer standards, may be incongruous with adult expectations.

Anxiety Motivation

The term anxiety refers to the highly unpleasant state of fear or

apprehensiveness that painful consequences will ensue from some impending danger. The subjective experience of anxiety is accompanied by bodily symptoms such as a dry mouth, pounding heart, trembling, and perspiration. Anxiety is considered to be a motive because it initiates and sustains goal-directed behavior.

How does the child develop the unpleasant and incapacitating emotional and motivational response of anxiety? Some interesting research on the development of a particular form of anxiety, namely, anxiety about testing situations, provides valuable information on this subject. A Test Anxiety Scale for Children had been prepared (Sarason et al, 1960) to measure the typical reactions of children in evaluative and test-like situations. The child is asked to reveal his anxiety by answering "yes or no" to questions such as the following: "Are you afraid of school tests?" When the teacher says she is going to find out how much you have learned, does your heart begin to beat faster?" "Do you sometimes dream at night that the teacher is angry because you do not know your lessons?" One theory states that test anxiety develops as a result of parental criticism and punishment of the child when he fails to perform satisfactorily. If the child reacts to criticism with anger, his parents may forbid the expression of hostility by threat of more extreme punishment. Hostile impulses then come to arouse anxiety about punishment. As a result the child may defend himself against the anxiety produced by his own aggressive reactions. He may become highly dependent on his parent, being unwilling to venture into achievement activities without their aid, and he may become self-derogatory, blaming himself for not being better (Sarason et al, 1960).

Test anxiety interferes with intellectual functioning in evaluative situations such as those in which intelligence tests are administered. Children with high test anxiety generally perform somewhat less well on intelligence tests than children with low test anxiety, perhaps because they are so concerned with their own emotional reactions that they are unable to concentrate on the demands of the external situation (Raynor & Rubin, 1971). It should not be assumed, however, that the highly intelligent children have no anxiety about tests. They may well have some test anxiety, although children who do badly on tests are more test-anxious in general than children who tend to do well.

Research indicates that highly test-anxious children do reveal more dependent behavior toward teachers than children with low test anxiety. The highly anxious child also tends to express anger less directly and to have fewer alternative modes of expressing anger than the child with low test anxiety (Sarason, 1960). The child with strong test anxiety has a tendency to blame himself as well as others following failure, and he more often apologizes after expressing anger than the child with low test anxiety.

THEORIES OF LEARNING

Behavioral Learning Theory

Learning Processes
Teaching Machines
Suggestions for Applying Operant Conditioning
in the classroom

Cognitive-Developmental Learning Theory

Techniques to Encourage Discovery Learning

Social Learning Theory

Observational Learning

Behavioral Learning Theory

Behavioristic or experimental psychology of learning (basically developed by B. F. Skinner) proceeds on the assumption that behavior is lawful and that, for this reason, each person functions psychologically in the same way as every other person. To understand the basic mechanisms of behavior is to understand the transition from past events and experiences to an organized internal structure.

From a behavioristic viewpoint, three principle types of processes are of central importance for understanding human behavior learning, perceptual, and cognitive processes. We are all a sum of what we have learned, perceived, and organized conceptually. The scientific goal, developed by Skinner, is to invent a set of general principles which specifies how responses are learned, how perceptions are organized and how cognitions operate (Wiggins, Renner, Clore, & Rose, 1976).

Learning Processes

From the moment of birth, a child begins to acquire feelings, actions, and values that will continue over a life time. Much will be informal, learned from parents and playmates during the course of socialization; other learning takes place in a formal school setting. The purpose of socialization and education is to instill "appropriate" feelings, behaviors, and values. Thus, the emotions we feel, the actions we take, and the values we hold, are acquired through learning processes (Wiggins, Renner, Clore, & Rose, 1976).

In Skinner's opinion, the experimental analysis of behavior has now provided enough understanding of the learning process in that a truly effective educational system can be set up. Experiments in which the behavior of a pigeon is shaped by reinforcing (rewarding) the pigeon's movements in the right direction illustrate the key idea behind Skinner's technological approach; that is the learning of students in school should be shaped by a series of reinforcements (Biehler, 1974).

Teaching Machines

Teaching machines have been developed to supply the kind of mechanical help needed by the out of date teacher. Skinner comments that the important features of the device is: reinforcement for the right answer is immediate. The mere manipulation of the device will probably be reinforcing enough to keep the pupil at work for a suitable period each day. A teacher may supervise an entire class at work on such devices at the same time, yet each child may progress at his own rate, completing as many problems as possible within the class period.

Programmed workbooks, where the answers to the questions are

arranged in small successive steps along the margins of the text, allow the child to immediately check his work after answering the question thus, providing immediate reinforcement.

Other applications of Skinner's behavioristic learning theory are behavior modifications, the use of instructional objectives, performance contracting, and accountability.

Suggestions for Applying Operant Conditioning in the Classroom

1. Remain aware of the extent and disadvantages of aversive control.
2. Provide as much reinforcement as possible in most cases, immediately after a pupil responds.
3. If students generalize erroneously, use selective reinforcement to teach them to discriminate.
4. If you are teaching a subject that has clearly specified terminal behavior, organize the work into units, or steps, and present them in sequence.
5. If you are attempting to shape behavior by leading your students through a progressive sequence of stages, vanish your prompts properly.
6. Keep in mind the impact of different reinforcement schedules on the rate of extinction.
7. Be sure to consider the potential value of programmed instruction when working with the disadvantaged, with slow learners, or with pupils who lack self-confidence.
8. When appropriate, apply operant conditioning principles in shaping desirable forms of behavior and establishing and maintaining classroom control (taken from Biehler, 1974).

Cognitive-Developmentalist Learning Theory

Cognitive-Developmentalist view learning as the interaction between one's genetic endowment and the quality of his environment. Heredity provides limits within which a person's intelligence can develop. Some people receive better genetic endowment, which provides them with a capacity for greater intellectual skills and an ability to handle more complex occupations than others of lesser endowment. It is certain that not everyone can be a genius and that regardless of environmental stimulation, an individual cannot surpass heredity's limits. However, it is recognized that a non-stimulating environment might prevent the full development of hereditary potential while a propitious environment might enhance its development (Thornberg, 1973).

The fundamental assumption of cognitive theory is that personality arises through continuing interaction of structuring tendencies within the organism and the structure of the external environment. The inter-

action produces a sequence of stages, a reorganization of cognitive structures that have been modified by assimilation of experiences and adaptive accommodation to it.

Cognitive-developmental theorists argue that learning is dependent on development rather than the converse, as is usually assumed. The emphasis on the sequential stage development of knowledge suggests that the most direct application of the theory lies in education. The implications of cognitive theory for curriculum planning have been articulated by Hunt (1961, 1968) in what he aptly calls the "problem of the match" the need to match curricular demands to the child's developmental stage. Hunt believes that Maria Montessori's approach solves, the problem of the match, because her techniques capitalize on children's spontaneous interests, permitting them to work with materials of interest as their own wishes dictate.

To summarize the stage dependent learning of the cognitive theory (specifically developed by Piaget); the child understands the world through a progressive differentiation of categories of experiences. The initial stage, knowledge is action; the first categories of knowledge are sensorimotor. Later, the child integrates sensations arising from sensorimotor experience into perceptual distinctions becoming the basis for conceptual categorization and true symbolic manipulation of experience (Wiggins, Renner, Clore, & Rose, 1976).

Techniques to Encourage Discovery Learning

1. Emphasizing contrast (i.e., contrasting man with animals, modern man with prehistoric man, man with child).
2. Stimulating informed guessing (i.e., asking the students to hypothesize how an Eskimo decides which breathing holes to stalk in hunting seals and then showing a film to illustrate how he actually does decide).
3. Encouraging participation (i.e., using games such as charades to illustrate concepts in language).
4. Stimulating awareness (i.e., having students analyze comic book detective stories to make them conscious of how they attempt to solve mysteries).

Social Learning Theory

Social learning theory falls into the philosophical tradition of British empiricism. John Locke's assumption that complex ideas are made up of associations of more elementary ideas is quite compatible with a theory that stresses learning (the association of stimuli) as the primary influence in personality formation. Consistent with this tradition is the view that people are relatively passive recipients of experience which they then mirror in their own personality. Their behavior depends

on the situation they find themselves in and the conditioning they have undergone in that situation. The actions they take will be those they have taken or seen taken previously in that or similar situations, especially if those actions were rewarded before. People are passive, then, rather than active with regard to the control of their own behavior. Indeed, Langer (1969) has appropriately referred to this view as the mechanical-mirror theory of human personality, implying that an individual's personality is a reflection of experience.

Observational Learning

The most distinctive feature of the recent social learning approach is the extent to which modeling or observational learning has been investigated. A highly important aspect of Bandura's (1969) treatment of that research is his emphasis on cognitive and symbolic factors. His theory of observational learning is that the observed behavior of the model and other stimulus events are transformed into images and verbal codes that are retained in memory. Later images and verbal codes combine with the appropriate environmental cues to guide the overt reproduction of the original behavior. Successful imitation thus requires attention to the model's original behavior adequate symbolic coding, accurate retention, the motor capacity to perform the acts, and some reinforcement or incentive for imitating.

Traditionally, learning theorists have been divided on whether learning depends on the number of reinforced responses or merely the number of responses alone, regardless of reinforcement. In answer, Bandura and Walters assert that neither reinforcement nor response is required for learning. To support this assertion, Bandura (1965) had three groups of children watch filmed models whose behavior was followed by rewards, punishments, or no consequences. In a free play session afterward, the children imitated the rewarded model most, the no-consequences model next, and the punished model least. However, when later offered a reward for reproducing the behavior they had seen, all three groups of children were clearly able to imitate the responses equally well. They had learned merely by observing, and although external reinforcement determined whether they performed, it did not determine ability to perform. Thus, according to Bandura and Walters, reinforcement affects performance but not learning, and contiguity (the association of two events in time) is the important condition if learning is to take place. The position that reinforcement is unnecessary for making permanent associations (learning) does not mean that this construct is unimportant in current social learning theory. Indeed, a central tenet of the theory is that behavior is controlled primarily by its reinforcing consequences. If people behave in ways that produce reinforcement, then an understanding of a person's behavior requires knowledge of his or her reinforcement history. Generally, the implications can be deduced from the principle that individuals will act to maximize their

rewards and minimize their efforts. Thus, immediate rewards are preferred to delayed rewards and large rewards to small ones (Wiggins, Renner, Clore, & Rose, 1976).

REMIEDIATION OF THE PERCEPTUAL LEARNING PROCESS AREAS

- Explanation and Characteristics of the Learning Disabled Child

Learning Modality Disorders and Remedial Techniques

- Auditory Vocal
- Auditory Reception
- Auditory Discrimination
- Visual-Motor
- Visual Reception
- Visual Discrimination
- Visual Closure
- Spatial Relationships
- Auditory Sequential Memory
- Visual Sequential Memory
- Auditory Association
- Visual-Motor Association
- Verbal Expression
- Sound Blending
- Emotional Disorders

Every classroom probably has two or more children hampered by a learning disability. Such a disability can be in the area of auditory or visual perceptual handicaps and can involve the psychological processes of input, memory integration, and/or output.

Input is, briefly, the receiving of information. Any disability interfering with this reception is an input disorder. Memory refers to the storing and retrieving of information in a logical and meaningful manner. Integration or association, involves comparing, changing, enlarging, uniting, relating, combining, or any means used to render information more complete. And output processing is using information normally and meaningfully. Disorders can occur in one or more of these psychological processes.

Although a child has normal intelligence, he may not be able to learn by the traditional teaching methods. He is the child about whom we tend to say, "He could learn, if he would just try harder," or who causes us to wonder what is wrong with our teaching methods. Teachers feel sure that he is intelligent but recognize that something is preventing him from functioning to his full potential. There are many slow learners who are functioning to their potential; they are not to be considered as having a specific learning disability unless they display the characteristics listed on the pages to follow. The mentally retarded child may also have a learning disability, but he should be provided for through other special services.

Learning disabilities refers to significant deficits in essential learning processes requiring special education techniques for remediation. Children with learning disabilities generally demonstrate a discrepancy between expected and actual achievement in one of more areas such as spoken, read, or written language; math; and spatial orientation. A child with learning disability is defined by statute in Illinois, for example, as a child of normal or above normal intelligence, not visually or auditorially impaired, mentally retarded, or emotionally disturbed. He exhibits deficits in underlying processes essential to learning, in either/or perception, integration, expression, memory, or conceptualizations.

A child suspected of a learning disability handicap may exhibit one or several of the following characteristics.

1. Wide discrepancy between ability and achievement.
2. Uneven performance.
3. Poor handwriting.
4. Poor coordination.
5. Hyperactivity.
6. Distractibility.
7. Immature emotional development.

8. Emotional problems (secondary to educational failures).
9. Ambidexterity.
10. Fine motor defects.
11. Language irregularities ("bakset" for "basket").
12. Poor memory.
13. Poor concept of time, date.
14. Habit of holding paper at 90-degree angle or upside down.
15. Appearance of being forgetful and "lost."
16. Inattention.
17. Weakness in arithmetic.
18. Reading disabilities:
 - a. Can not read by sight.
 - b. Makes bizarre perceptual errors.
 - c. Reverses letters words (many young children do this; it should not persist beyond second grade).
 - d. Adds or omits words or letters.
 - e. Substitutes words or letters.
 - f. Guesses from first letter.
 - g. Can not synthesize syllables.
 - h. Reads two years below grade level.

Disability Definition: Auditory Vocal

A child with an auditory-vocal channel disability does not learn by the use of words or sound symbols. If he does not have visual channel involvement, he will be able to learn better using visual stimuli.

Remediation Suggestions:

1. Use sight word methods in reading.
2. Use sight words and flash cards.
3. Use context clues.
4. Use configurational clues.
5. Use language Master and tape recorder.
6. Teach auditory discrimination by techniques listed in the subcategory.
7. Teach sound blending by techniques listed under disorders of output.

Disability Definition: Auditory Reception

An auditory reception disability may be defined as the inability to understand what is heard even though hearing acuity and the sensory receptive organs are normal. A child with this disability may express it in behavior in the form of not listening, not paying attention, or only pretending to understand what he hears.

In the classroom the child with an auditory deficiency usually does

not comprehend the general instructions given to the class by the teacher. He hears, but the message does not get through. When this happens repeatedly he learns to tune the teacher out. Because he does not understand what he hears, he has a poor receptive vocabulary, cannot carry out directions, and can not identify sounds correctly. Since most instruction is oral, adequate reception and the development of these skills are crucial for general learning.

Remediation Suggestions:

1. Train listening skills, using a variety of approaches. Use short, one-concept phrases, and have the child repeat them.
2. Tell the child to listen or pay attention before you say something very important.
3. Ask short questions. Ask simple questions requiring yes or no answers such as; "Do children wear shoes?" "Does a red light mean go?"
4. Give one step in a sequence of directions at a time.
5. Give visual clues whenever possible (gestures, written clues, etc.) and have the child repeat what you said to him.
6. Go back to teaching the names of objects. Have a box of familiar objects - a ball, car, pencil, book, etc. Take out an object and say "This is a ball. What is This?" Repeat until you get an answer.
7. Give increasingly difficult oral instructions and problems. Start at a level the child can succeed at continually; then add one more instruction, and another.
8. Show three objects to each child and name one. Have each child point to the object named.
9. Have each child put his head on his desk and be very quiet. All the children listen for you to call them, one by one.
10. Have the children close their eyes; then make a noise (use a stapler, bounce a ball, etc.) and ask the children to identify the object.
11. Call out, or have a child call out, "Birds fly," "Tigers fly," etc. naming things that can or cannot fly. Have the other children raise their arms and pretend to fly when the object is a flying one.
12. Give each child a number code, or name code (an animal, a color, etc.) to which he must respond when given verbal directions.
13. Play games, such as "Simon Says" and "Mother May I?"
14. Use ditto sheets, having the children follow oral instructions, such as "Put a cross on the first square," "Color the second square red," "Draw a cat in the third square," etc. Gradually increase the length of the activity; or use a plain sheet of paper, and have the child follow directions, such as "Put your name in the right hand corner," "Put your age in the left

- hand corner.
15. Give increasingly difficult oral instructions and problems, using ditto sheets or plain sheets of paper.
 16. Have the child write from dictation.
 17. Have the child listen to a story that has nonsense elements contained in it. Direct him to point out the parts that sound silly or do not make sense.
 18. Say something to the child, and have him verify what was said to him by repeating it back to you.
 19. Have bookshelves in the room with objects on them. Give verbal directions to the child; for example, "Put the book under the apple." Use spatial relationship vocabulary, such as "over" "beside" "under."
 20. Play "Bring Me." Ask the child to listen to the sentence and do what the sentence says unless it is a nonsense sentence, in which case the child is not to move.
 21. Draw a "silly face" on the blackboard. Tell the class examples of true and silly sentences. Ask the children to think up one of each. Then call each child up in turn and whisper "true" or "silly" to him. Give him help with his sentence if he needs it. He is then to say the sentence to all and to call on one of the other children. The child called on says if it is true or goes to the blackboard to draw a silly face.
 22. Read a story to a child. Have him complete sentences from the text of it.
 23. Have a child listen to a tape recorder which has a story at his reading level on it. Have him follow along in the book.
 24. Give the child three words, of which two are identical. Ask him to identify the word that is different.
 25. Give a description of something, and ask the child to name what you are describing. Give the child an object word, and have him describe it.
 26. Read a story to the child. Have the child answer questions concerning facts, characters, or theme.
 27. Read a story to the child. Have the child act out or recall the sequence.

Disorders of Input

Disorders of input include auditory, visual, and kinesthetic perception. Auditory-vocal, auditory reception, and auditory discrimination disabilities are contained in auditory perception; visual-motor, visual reception, visual discrimination, visual closure, form constancy, and spatial relationship disabilities are found in visual perception; and gross motor coordination and body image, position in space, and left-right discrimination disabilities are encompassed in kinesthetic perception.

Disability Definition: Auditory Discrimination

Auditory discrimination is the ability to hear likenesses and differences in sounds. It is not to be confused with auditory acuity, which is the ability to receive and hear sounds. The child with a problem in this area is not able to hear and/or may confuse likenesses and differences in sounds, sounds of letters, blends of sounds, and sounds of words.

The ability to discriminate the fine differences between speech sounds is related directly to success in reading and is often associated with articulatory speech disorders. The child may have a speech problem, may sequence sounds or syllables in an odd manner, and may use many small words incorrectly. He may seem not to listen or understand, and may watch the teacher's face intently, trying to lip-read. A child with inadequate auditory discrimination skills very often confuses certain similar words, such as "bit" and "bet," "pen" and "pin." He often cannot identify rhyming words and cannot sound beginning, medial, and final sounds in words. This child often fails to get spoken assignments and may ask to have directions repeated. He can follow directions better after he has been shown rather than told. He can "do" many more things than the teacher would expect, like fix electrical cords, put puzzles together, etc.

A child with deficits in auditory discrimination skills usually has a very difficult time with the phonics approach to reading and has trouble associating sounds with their visual symbols, which is so important in learning to read and spell.

Remediation Suggestions:

1. Start training with sounds, etc., which are grossly different, and gradually work toward activities where the differences are very subtle.
2. Vary sound-guessing games by having the children guess with their eyes open, and with them closed. Use a bouncing ball, rhythm instruments, paper-tearing, etc. Let the children take turns making sounds for each other. The child that guesses correctly gets the next turn.
3. Take a "listening walk." Have the child identify sounds, such as a motor running, a car horn honking, a bird singing.
4. Have the children whisper instructions in each other's ears and then carry out the instructions.
5. Put short, familiar words on the board that begin with the same letter. Read the words, and ask the class in what way they are alike. Ask the children to underline the letters that are alike. Read some other words, and ask the class to raise their hands if the words start with the same letter. This can also

- be done with medial and final sound.
6. Column several sheets of paper, and head each with a key word. Read some words to the children, and have them list under each key word the rhyming words they hear. Have them read the lists aloud and use them as often as possible.
 7. Ask the child to tell if two words are the same or different. Start with words grossly different and gradually work toward those with fine differences, altering just one phoneme at a time, for example pen-pin, coat-coke, bit-bet.

Disability Definition: Visual-Motor

A child with a disability in the visual-motor channel cannot learn effectively using visual stimuli. If the auditory channel is not involved, this child usually learns better using auditory stimuli.

A child with this disability (often referred to as an auditory learner) may display any or all of the following behavior characteristics: Reversals of letters (b, d; p, q; u, n; etc.) may occur in writing beyond the age of seven or eight. Numbers may be inversed and reversed. The child may display missed laterality, or right-left orientation. He may be awkward motorically, frequently tripping over his own feet, or bumping into things. Coordination will be generally poor. He may be hyperactive, with a short attention span, and may tend to persevere. The auditory learner can give correct answers when the teacher reads a test to him, but he will not sit down and put the answer on paper. His handwriting will be poor, also his art work and drawing. He will seem bright but do poorly on group tests of intelligence or achievement. He may not be able to tell time or develop an adequate concept of time and space. He may get "lost" easily.

Remediation Recommendations:

1. Teach the phonetic method of reading.
2. Allow oral responses.
3. In severe cases, test the child orally.
4. Use a tape recorder.
5. Use a Language Master.

Disability Definition: Visual Reception

A child with a disability in visual reception, does not have the ability to comprehend pictures and written words. He will probably learn better auditorily, if he does not have auditory channel problems as well. He will have difficulty learning to read by traditional methods.

Remediation Suggestions:

1. Give directions orally.
2. Have the children do the following:
 Match buttons by category, color, and size.
 Match shapes - squares, circles, triangles, crescents, stars, diamonds, etc.
 Match colors.
 Match cut-up shapes.
 Match letter cards.
 Match cut-out shapes to drawn shapes.
3. Train the children in the ability to label, using simple objects and pictures.
4. Pantomime or have a child pantomime an activity. The class must guess or describe the activity. Structure activities that are grossly different from each other (setting the table, riding a bike): then progress to more similar activities (eating popcorn, eating ice cream, eating watermelon).
5. Have the child name objects in a picture as fast as possible, to speed up the visual decoding process.
6. Ask questions about pictures involving spatial relationships, such as: "Is the dog next to the cat?"
7. Tell a short story while the child looks at a picture that is relevant. Upon the story's completion, have the child name things that were in the story and tell if they were or were not in the picture.
8. Have the child name and describe objects in magazines, books, catalogues, and picture dictionaries.

Disability Definition: Visual Discrimination

A child with a visual discrimination disability is not able to match and/or distinguish similarities and differences in words, letters, pictures, objects, etc. He will experience difficulties learning to read, write, and spell.

Remediation Suggestions:

1. Give sorting and matching activities according to shape, color, and feel.
2. Use reading materials with large print, if necessary.
3. Teach position at the pre-letter stage by having the child perform various activities, such as turning objects in different positions to demonstrate differences in appearance. Use material large enough to manipulate.
4. Make up exercises. Ask the child to look at the first figure in each row and to find another in the row that is like the first. Use shapes, forms, or pictures at pre-letter stages.

5. Test orally when possible. Read material to the child.
6. Give the child a torn-out page from a magazine or newspaper. Ask him to circle or put a line through the letters in the sequence of the alphabet - a, b, c, etc. He can proceed to finding words.
7. Make lists of words, and have the child match the first word with subsequent words.
 on---no, it not on
 is---si, tis nit is
8. Use book markers, tachistoscope, and other stimulus reduction.

Prepare drawings to show an outline in one color and the internal design in another color, so that the child can be trained to be more aware of internal and external details in figures, letters, and words.

Disability Definition: Visual Closure

A child with a figure-ground disability in the visual-motor channel will have difficulty focusing attention on a specific part of the total surrounding stimulation and differentiating that part from the total.

The child will seem inattentive and unable to keep place in reading and number work. He will be distractible. He will have difficulty drawing a straight line between boundaries, difficulty in finishing a letter when writing, and difficulty in finding objects.

Remediation Suggestions:

1. Reduce the amount of stimulation the child sees - front seat, no exciting bulletin boards, pictures, etc., in his immediate visual field. Use a carrel; it can be constructed with a cardboard box.
2. Use puzzles, activity books, and hidden figures in pictures.
3. Mazes.
4. Ink frames to help isolate the box on a work sheet.
5. Use worksheets in which the main figure is blended into the background. Have the child choose or color only the main figure.
6. Have the child find all the wooden things in the room. Do the same with concepts of color, shape, size, glass, living things, etc.

Use geometric shapes in many colors. Ask the child to sort out all the blue triangles, red circles, yellow squares, etc.

Disability Definition: Spatial Relationships

The perception of spatial relationships is the ability to perceive

the position of two or more objects in relation to oneself and in relation to each other. For example, a child stringing beads has to perceive the position of the bead and string in relation to each other.

The child who has difficulty perceiving spatial relationships could have trouble with sequential tasks. He may find it impossible to put letters in proper sequence while reading or spelling. For example, he might have trouble distinguishing between cold and coal, m and n, and b and d. He may be unable to remember the sequence of processes involved in solving problems. This could cause the child to appear inattentive. He probably will have trouble with up, down, front, back, left, and right.

Remediation Suggestions:

1. Work with beads. Begin with the child watching, then not watching, then by memory.
2. Teach time relationships, use color clues on clocks for telling time. Work with the calendar; make individual calendars to teach time, seasons, and sequences on numbers and days of the week.
3. Have the child work a jigsaw puzzle. Begin with two pieces, and add more as the child is successful.

Disorders of Memory

Disorders of memory include disabilities in auditory sequential memory, visual sequential memory, and lexical memory. Time disability is also incorporated into this category.

Disability Definition: Auditory Sequential Memory

An auditory sequential memory disability can be defined as the inability to correctly repeat a sequence of syllables previously heard. The child with this type of problem may also not be able to remember non-meaningful stimuli which he hears. This child has a short auditory memory span. In other words, he has difficulty remembering what he hears, particularly sequences of words, sentences, directions, etc. This child is often apt not to pay attention to what he hears, such as directions in the classroom. Memory affected may be immediate, intermediate (earlier in the day, or previous day), or long term (earlier than the previous day).

Remediation Suggestions:

1. Have the child write as he memorizes something.
2. Give oral directions a step at a time.
3. Give the child written directions instead of oral directions for

- classroom tasks when necessary.
4. Have the child spell orally.
 5. Use instruction sequencing. Have the child repeat instructions then have him follow them.
 6. Teach the days of the week and months in sequence; have the children count by 1's to 100, then by 2's, 3's, 10's, etc.
 7. Have them write from dictation.
 8. Send the child on errands with oral messages.
 9. Read a simple story. Ask the child to draw three or more picture sequences, like a cartoon strip, while you read the story. Ask the child to retell the story from the cartoon.
 10. Have the children learn to categorize or classify objects. They can make scrapbooks of fruits, furniture, etc.

Disability Definition: Visual Sequential Memory

A visual sequential memory disability can be defined as the inability to correctly reproduce symbols and/or sequences of symbols previously seen. In the classroom, this child frequently has difficulty identifying words which have a similar sequence and often confuses them. The child who does not read well is frequently the child who cannot visualize. He may word-call, but long-term memory problems may hamper his comprehension abilities.

Remediation Suggestions:

1. Use auditory cues. Have the child spell out words as he attempts to write them.
2. Use picture flashcards and a picture dictionary for difficult words.
3. Have the children look out the window for one minute, return to their places, and after a period of time, write down everything they saw.
4. Use newspaper cartoons cut apart for the child to sequence.
5. Draw a picture, leaving out a part. The child draws in the missing part.
6. Write a series of letters on the chalkboard. Have the child circle letters that will make a word and write them as a word.

Disability Definition: Auditory Association

Auditory association is the ability to draw relationships from what is heard or the ability to manipulate linguistic symbols internally. It is the central process of making the association or of relating what is heard to what has been stored and of responding in a meaningful way.

The child with a disability in this area probably has problems with abstract reasoning, showing poor concept formation in verbal responses.

He may raise his hand and give a foolish answer. This child tends to be very slow to respond. He needs to have time to think over a question. He may be poor at comprehending directions.

A child with auditory input disability is often deficient in association. He may not gain sufficient meaning from what is heard in the first place, and this is what impairs his reasoning about what he hears. Another may have good auditory input but a marked deficiency in auditory association. With a real disability in either of these two areas, there should first be a check of the child's hearing acuity; if there is not a problem in acuity, perception should be checked. If disabilities exist in both input and association, remediate input first.

Remediation Suggestions:

1. Ask one-concept questions, eliciting several short answers.
2. Give ample time for the child's response.
3. Categorize or classify objects.
4. Train the child in the ability to find common characteristics. Use objects or pictures. Practice finding differences and similarities.
5. Ask cause and effect questions "What would you do if?" "What would happen if?"
6. Use word association. Say, "Think of all the things you can when I say red," etc.
7. Have the child tell all the things he can find in a grocery store, kitchen, barn, etc.
8. Have the children complete analogies: "If Shelley is a girl, Sam is a _____," etc.
9. Have the children speculate about the ending of a story if one main element of the story is changed.

Disability Definition: Visual-Motor Association

The child with a visual-motor association disability cannot manipulate linguistic symbols internally and does not relate what he has seen to visual experiences stored from past experiences.

The child with a disability in this area shows poor concept formation in verbal responses. Concrete thinking is in greater evidence than abstract. He does not comprehend what he reads and cannot tell a story from pictures. Remediation should first take care of input perceptual problems, if they exist.

Remediation Suggestions:

1. Use pictures with something missing or incongruous.
2. Have the child match picture cards-alike (table, table) and

- two together (table, chair).
3. Show pictures and ask for two names for each of them, such as apple and fruit, etc.
 4. Have stories in pictures out of sequence; child is to arrange in sequence (See-Quees Story Cards).

Disability Definition: Verbal Expression

Language disorders include verbal expression, or the ability to generate and express ideas or concepts in spoken words.

Remediation Activities:

1. Have the child minutely describe an object, picture, or person in the room. At a later stage, have him describe objects or persons that are not present.
2. Have the child feel objects in a bag and tell about what he feels.
3. Allow him to teach a game or skill to another child.
4. Encourage oral reports, but permit the use of notes.
5. Ask the child to complete open-ended sentences for which there is no one answer, such as:
 In the morning I wake up _____.
 I hurry to dress so I can _____.
6. Use puppets with stories or situations, to encourage the child to be more expressive verbally.
7. Make a mock TV set. Assign each child a responsibility, such as telling the news or reporting the weather. Pre-plan for guidance.
8. Discuss the meaning of proverbs, such as "Haste makes waste."
9. Have the child teach a skill or concept to his classmates.
10. Remember at all times to first of all get the child to verbalize freely; then later be concerned about the quality of his expression. Do not make an issue out of the child's problem in verbal expression. Ignore it when he does not respond adequately; praise him when he does. Do not point out mistakes, correct them, or say that his response is not very good. Pick personal high-interest topics.

Specific Recommendations for Teaching Expressive Language:

Begin with the teaching of concrete words. Nouns, verbs, and a few simple adjectives that relate to daily experiences should be presented first. Start with words that do not sound the same. For instance, do not teach cap, cup and cat at the same time.

1. Teaching nouns. Place a familiar object in front of the child, and say the word alone several times. Do not say, "This is a

- shoe," for instance. Encourage the child to say the word, and then arrange experiences so that he uses the word. Begin with the real objects, progressing from toys to pictures. Eventually use parts of the body, and then advance to more abstract nouns. Have him find cut-outs in magazines and categorize them into broad categories, such as foods, toys, furniture, etc. Have him verbalize names of objects and categories.
2. Teach verbs. The child must learn that a verb is a word that represents action and not the name of an object. Involve him in activities, such as walking and running, and say the word denoting them.
 3. Teaching adjectives. Adjectives can be related to sensory experiences and cannot be taught as isolated words. Teach the child such words as "big" and "hot" by comparing a big object with a little object, and hot water with cold water. Allow him to observe and feel the actual object. Have him listen to sounds. Have him taste different types of food. Teach him feeling by showing him simple pictures with a face, having an obviously happy look, or sad look, etc. Through actual experiences, teach such words and concepts as "long," "short," "wide," and "narrow."
 4. Teaching prepositions. After the child has established a vocabulary of nouns, verbs, and adjectives and says some simple sentences, he should be taught words that show location (prepositions). Show him simple pictures such as a chair and a ball in different positions (on, under, in front, and behind). Using a ball and a chair, have him place the ball in the correct position. Use simple phrases such as "on the chair." Have the child draw pictures of the chair and ball in different positions, verbalizing the position.

Disability Definition: Sound Blending

Another language disorder is the sound blending disability. A child with this disability is not able to put together the sounds of a word which are spoken and tell the whole word that is formed.

Remediation Suggestions:

1. Begin by saying a word articulated very clearly and distinctly at a normal rate. Have the child repeat it after you.
2. Slow down the rate of pronunciation of the word. Have the child imitate your manner of pronunciation.
3. By this step he should be saying each sound in the word separately, such as c-a-t = k-a (short) -t.
4. A visual-auditory-tactile-kinesthetic method may be used. Be sure to use words that have no silent letters in them and a one to one sound-letter correspondence initially. This procedure

could probably be used most ideally at step 3.

- a. Present a printed model of a word (cursive or manuscript). Have the child trace the model with his finger, saying the respective phoneme for each grapheme as he traces it. He should say the total word at the conclusion of tracing it.
- b. He should repeat the tracing process and pronunciation of the phoneme step several times until he feels he knows it.
- c. Then have the child say each phoneme as he writes it and synthesize the sounds and say the total word.

Disability Definition: Perseveration

Perseveration may be defined as the tendency to continue to behave or respond in a certain way when it is no longer appropriate. A child with this disability may repeat a word several times in speaking or reading before going on; or he may continue a movement, such as letter writing, even at the end of a line. He may bring up an idea over and over. Children afflicted with this problem may be recognized by their inability to shift easily from one activity to another. In coloring, in writing, in behavior, the activity may be continued until the child is forcefully stopped.

Remediation Suggestions:

1. Structure the child's school day with as much variety as possible. Very careful attention to program structuring may do much to help the child eliminate perseveration experiences in school activities. For example, a pegboard activity may be followed by paper cutting, a walk, or reading.
2. Discuss the perseveration problem with the child.
3. During reading use bright-colored bits of paper to show the end of words; but the emphasis should be on the spaces between the words not on the word's proper.

Disability Definition: Emotional Disorders

Emotional disorders often accompany perceptual handicaps because of educational failures. The child may have trouble getting along with his peers, or being accepted in group situations. He may exhibit the following behaviors: over-authoritativeness, attention seeking, clowning, teasing, pestering, showing-off, avoidance of other children, isolation from peers, clinging to adults, playing with younger children, or playing only with the opposite sex, etc.

Remediation Suggestions:

1. Show pictures from magazines, etc., illustrating social situa-

- tions or family activities. Discuss family and social roles, and explain how rules develop. Explore how roles and rules develop from parents, teachers, councils, and committees.
2. It may be helpful to have short plays or role-playing bringing in problem situations, after discussions are had regarding family relationships, in order to develop insight and consider resolutions that could be made.

REMEDIATING LEARNING DISABILITIES IN SPECIFIC SUBJECT AREAS

Specific Reading Problems

Written Language Problems

Spelling Skills

Written Expression

Arithmetic Problems

Specific Reading Problems

Difficulties in learning to read have been recognized as the most important single cause of school failure (Strang, 1969). Many children who encounter reading difficulties experience academic problems in other areas of the curriculum. Smith (1968) regards reading as "the most significant common denominator for adequate achievement" in areas such as arithmetic, communication, and social and personal adjustment.

The skills involved in learning to read adequately are many and complex. For some children they are a confusing puzzle. Teachers of children with reading problems must be aware of the specific skills with which particular children are experiencing difficulties. They must also be aware of methods and materials to alleviate the reading problem. The responsibility for knowing the needs and strengths of each child in the class rests with the classroom teacher.

Among the general reading problems with which the teacher must be concerned, the following are most basic:

1. What visual skills in reading prevent the child from reading?
2. What auditory skills in reading prevent the child from reading?
3. Does the child comprehend the material that he reads?

Visual Skills in Reading

Many children who have normal visual acuity experience difficulties in differentiating, interpreting, or remembering different shapes, letters, or words. Basically, children with visual skill deficiencies must learn to:

1. Discriminate sizes and shapes.
2. Discriminate specific letters.
3. Discriminate the directionality of specific letters.
4. Remember letter names and words.
5. Remember particular words learned mainly by sight.
6. Recognize structural parts of words.

I. Has the child learned the visual skills necessary for reading?

A. Has the child mastered the skills prerequisite for visual discrimination of letters?

1. Place number of objects (cup, pencil, ruler, block, nail) in front of the child. Display a duplicate object, such as a pencil or block, and ask the child to pick up the similar object. Initially, only three or four objects should be included. As time progresses, and the child improves in this skill,

- increase the number of objects.
2. Match pictures of objects with the actual objects. Variation of this activity could include allowing the child to cut pictures from magazines to match with actual objects or matching pictures to pictures.
 3. Give the children various shapes of macaroni to sort.
 4. Show the child a picture with missing parts. Direct the child to draw in the part that is omitted.
 5. Display three triangles and one square. Ask the child to identify the shape that is unlike the other. Various geometric shapes may be included. Shapes of different colors may be used after the child learns shape discriminations.
 6. Describe an object that is very familiar to the child. Ask the child to find that object among four pictures that are presented to him.

B. Can the child discriminate among letters?

1. Have the child match capital and lowercase letters:
"Aa, Mm, Pp, Bb."
2. Play letter bingo with small groups of children. Cards with different letters printed on them are passed to each child. The first child to fill a card is the winner.
3. Have children trace various letter templates and stencils.
4. Let the child use the typewriter to find specific letters. Children can be instructed to find certain letters in a given amount of time.
5. Dot to dot pictures may be used with letters. The teacher can direct this exercise by instructing the child: "Draw a line to the letter 'p', now a straight line over to 's'," etc.

C. Does the child reverse letters?

1. Have the child make an association for letters that are reversed. For example, children with a freckle on the left hand can remember that a 'd' points in that direction. Children who wear a ring on one of the fingers on the right hand can associate the ring with the direction of letter 'b.'
2. Print frequently reversed letters on oak-tag strips. These letters should also be outlined on tracing paper. Let the child match the tracing paper letter with the oak-tag strip by placing the tracing paper over the letter.
3. Place words that are frequently reversed on flash cards and use them for periodic drills. Arrow cues may be added for help.
4. Place words on flash cards and present them to the child by covering up all but the first letter. Slowly uncover additional letters until the child correctly pronounces the word. The activity emphasizes left to right orientation. An overhead

projector, may be used.

D. Does the child remember visual stimuli, including letters and words?

1. Place several articles, such as eraser, block, pencil, chalk, in front of the child. Allow the child a short time to view them. After you have removed the items, ask the child to recall as many of them as he can.
2. Cut apart cartoon strips and paste them on oak-tag. Ask children to reassemble the cartoon in the correct order.
3. Letters or parts of words may be color cued for memory. For example, in the word raining, the "ing" may be colored red.
4. Provide children with words in a mixed up order and ask them to arrange the letters correctly. For example, cat as atc, bag and agb, etc.

E. Does the child recognize sight words?

1. Write five sight words on the chalkboard. Read each one aloud and ask the children to close their eyes. Erase a word and ask, "What is missing?" Continue until all words are erased. Following this, ask the children to remember the five original words and write them again on the board. See who can read the entire list.
2. Duplicate a sheet with groups of words that are similar in configuration. Direct the child to circle the word you read.
Example: 1. at, is, it, in
 2. see, saw, sea, sip
3. Picture dictionaries can be helpful in learning words and associating meaning. Encourage children to make their own dictionaries with either magazine pictures or their own illustrations.
4. Words can be presented to children in pairs to facilitate memory. For example, salt and pepper, hot and cold, black and white.
5. Label objects around the room and periodically review these labels with the children. Mix the labels and have a child put them in the proper place.
6. Have the child match a stimulus word from a list of visually similar words, such as those illustrated below:
 bed bid bad bud dab bed
 run run rat run sun nun

F. Does the child recognize prefixes, suffixes, and compound words?

1. Provide the child with a list of words and direct him to circle the root in each word. For example, singing, jumps, ended, etc.

2. Give the child a series of sentences to which prefixes and suffixes must be added to complete certain words:
 Mary walk _____ to the store each morning.
 He did not _____ connect the refrigerator.
3. Under two columns, list words that can be made into compound words. Leave a third column blank so that the child can complete the compound word: base ball _____.
4. Children can make their own compound words. Have them provide a definition for each word they make.

Auditory Skills in Reading

Children with auditory skill deficiencies may have normal hearing acuity. However, they experience difficulties in differentiating, synthesizing, and remembering the sounds of different letters and words. The child must learn to:

1. Discriminate among sounds.
2. Discriminate initial and final letter sounds.
3. Synthesize letter sounds into words.
4. Remember the sounds of letters and words.

II. Has the child learned the auditory skills necessary for reading?

A. Has the child mastered the skills prerequisite for auditory discrimination of letter sounds?

1. With the aid of a tape recorder ask the child to identify common sounds such as an airplane, a car, various animals and household appliances. These sounds can be gradually moved to voices of familiar individuals.
2. In working with the sounds of letters, work initially with grossly different sounds, such as /m/ and /p/, /s/ and /b/, or /a/ and /v/. Gradually work into the finer discriminations such as /v/ and /f/, or /m/ and /n/.
3. Read a word, such as fat. Ask the child to repeat the word. Then read a list of words, and have the child clap when he hears a word that rhymes with the stimulus word.
4. Write sounds on large pieces of paper and place them on the floor. As you say a word beginning or ending with a specific sound, the child must walk to the sound he has heard.
5. Listen to commercial records which teach auditory awareness of sounds.
6. Give the child a list of rhyming words and direct him to circle the parts of the words that are alike. This activity provides a check to see if the child is aware that rhyming words have parts that are spelled similarly.

B. Can the child discriminate initial and final sounds?

1. Give the children two cards numbered one and two. As you say a word instruct them to listen for a specific sound and indicate whether they heard it at the beginning or ending by holding up card #1 or card #2.
 2. Call out words which have the same blend in either the initial or final position in all the words. Let the child tell where he hears the blend. For example, chip, chum, search, patch, march, etc.
 3. Ask children to blend different consonants to a specific word family. For example, blend initial consonants to the "in" family (fin, tin, pin).
 4. Give the child the name of someone in the room. Let the child make up two descriptive words which have the same initial consonant sound. For example, prim, pretty, Paula or skinny, sil-ly, Sam.
- C. Can the child blend letter sounds into words?
1. After children know specific sounds, give them three to five letter nonsense syllables. Ask them to blend the sounds. The syllables can become progressively longer.
 2. Ask the child to blend specific sounds to a given list of phonograms. For example, blending the /p/ sound to "at, in, it, an."
 3. Prepare a series of three stimulus words. Pronounce one of the words in each series. Have the children listen and underline the word you pronounce.
 4. Make two concentric circles, one with blends and the other with phonograms. Have children rotate the circle and read the words. Circles for initial consonants can also be made.
- D. Does the child remember sounds, including the sounds of letters and words?
1. Present a series of verbal commands to the child. Instruct the child to follow the sequence of the commands. For example: "John, throw this paper in the wastepaper basket, then pass out these books to the boys, and then erase the chalkboard."
 2. Present a series of movements to a small group of children and have them follow the sequence. For example, jump, hop, clap, and skip.
 3. Give children a blank piece of paper. Direct the children to perform a variety of tasks. For example: "Make a circle in the upper-right hand corner, draw a straight line in the middle of the paper, write your name on the line," etc.
 4. Take a walk with the children around the playground listening, watching, and observing. Once you are back in the classroom, have the children list by categories (animals, transportation) what they heard. This activity can also be used on field trips, walking to and from school, etc.

Reading Comprehension

Johnson and Myklebust (1967) indicate that the major problem of the child with reading difficulties is not in understanding what he reads, but in processing printed material. Consequently, once specific visual and auditory skill deficiencies have been corrected, teachers will often find corresponding improvement in reading comprehension. Teaching suggestions for remediating comprehension include:

1. Reading to get the main idea.
2. Remembering specific details.

III. Does the child comprehend what he reads?

A. Does the child get the main ideas?

1. Give the children a series of written true-false statements to answer.
2. Give the children a series of absurd short stories to read. Ask them to find the absurdity.
3. Have students read newspaper articles from which the headlines have been deleted. Students select the correct headline from a group arranged on the teacher's desk.
4. Have children read untitled stories. Upon completion of each story, request that they write an appropriate title.
5. Point out devices used by authors to emphasize certain passages. Emphasize chapter titles, headings, italics, indentions, etc.
6. After reading a story, discuss it with the children, listing the main ideas in the story. Select children to illustrate specific story events with drawings. The story can be retold by rolling the drawings on a "TV" screen or overhead projector.

B. Does the child remember specific details?

1. After reading a story, ask the children to compose a telegram repeating the events of the story or of a certain part of the story. Limit the telegram to a specific number of words.
2. After students have read a story, distribute three or four sentences which indicate a sequence of events pertaining to the story. Have the students arrange them in proper order.
3. Encourage students to indicate exactly, where in a particular story they first knew it was sad, funny, etc.
4. Let one child take the role of a character in a story that the class has read. The rest of the class should try to guess the identity of the characters by considering clues given to them by the impersonator.
5. Have children read a story on "How to do" some activity. Upon completion ask them to perform the activity in sequence, i.e. building a kit, making soap, baking a cake.

Written Language Problems

Written language is one of the highest forms of language and essentially the last area of language to be learned (Johnson & Myklebust, 1967). It is usually preceded by the development of skills in listening, speaking, and reading.

Children with written language difficulties come to dislike the idea of written communication and either devise elaborate mental schemes to compensate for deficits in written language or simply avoid all written activities (Compton, 1965). To help a child overcome these difficulties the teacher must be concerned with three specific questions:

1. What particular difficulties prevent the child from correctly manipulating the writing utensil to form letters?
2. What skill deficiencies interfere with producing the correct graphic form for each word?
3. What interferes with the child's ability to translate ideas into words and syntactic patterns?

Handwriting Skills

Children who experience handwriting problems basically have difficulties executing the motor patterns that are required for writing letters, words, or numbers. Basic handwriting skills include the following abilities:

1. Holding a writing utensil properly and performing various motor readiness activities.
2. Properly using manuscript writing.
3. Properly using cursive writing.
4. For left-handed children, properly positioning the paper, hand, and posture.

I. Does the child write without difficulty?

A. Has the child mastered the skills prerequisite for writing?

1. Use the chalkboard for some of the exercises listed above. For example: Make a long line from left to right. Draw a circle in toward your body. Make a line going from bottom to top.
2. Some children may have difficulty in remembering how to hold a pencil. Johnson and Myklebust (1967) suggest placing a piece of adhesive on the pencil, cutting a small notch in the wood, or painting the specific area where the fingers should be held.
3. Use geometric-figure templates for tracing with fingers or freehand as a guide.
4. Children can trace figures and letters by placing tracing paper over the figure to be duplicated. During the beginning

stages of this activity, trace paper might need to be taped to the desk.

5. Gradually children should be able to reproduce different shapes upon verbal direction of the teacher. Example: Vertical lines, sharp peaks, wavy lines, circles, half circles.
- B. Does the child have difficulty with manuscript writing?
1. Arrow clues for specific letters can also be helpful. Some children are also aided by placing a little green dot at the starting position for the letter stroke, and a small red dot at the termination point for the letter.
 2. Teach children to talk out strokes in making specific letters:
n--short line down, back up, around and down
w--slant down, slant up, slant down, slant up
 3. Letters with easier strokes should be taught first. The following are considered the least difficult for children to learn:
c, i, l, o, t, v.
- C. Does the child have difficulty with cursive writing?
1. Cursive writing should not be taught to children who are still experiencing difficulties with manuscript writing.
 2. Letters with similar movement patterns should be taught sequentially. The following four groups contain similar strokes:
a, c, d, g, o
b, h, f, k, l, e
i, j, p, r, s, t, u, w
m, n, v, x, y, z.
 3. In the beginning stages of cursive writing, above the line "stops" and below the line "stops" may be provided as a cue for letter formation. The "stops" can consist of colored dots or short lines, masking tape, etc.
 4. For the child who has difficulty in keeping his wrist on the desk in a proper position, a heavy bracelet or wrist-band will help to keep the wrist in place.
 5. Verbal cues can easily be utilized in cursive writing. If letters of similar strokes are learned in sequence, the verbal cues can easily be "seen" by the child. The "A" stroke could be used in teaching the "G" stroke. For example: "First come around like this, then go up,"etc.
- D. Does the left-handed child position his paper, head and body correctly?
1. The commercially available writing frame (a wire guide attached to the pencil) is an excellent device for teaching left-handers the correct hand position while writing. Taping the paper to the desk in the correct position serves as a reminder in the beginning stages of handwriting.

2. The incorrect hooked wrist position observed in many left-handers may be helped by practice with paint brushes, chalk, magic markers, etc.
3. The left-hander's writing should be slightly sloped to the left, although the slope appears to be somewhat backhand. Left handed children should be given appropriate sloping examples to follow. Teachers can make use of left-handed teachers in the same school, older left-handed student to serve as good models.
4. Special equipment, such as left-handed scissors and desk-chairs should be provided whenever possible. The Plunkett writing exercises serve as a commercial aid for left-handers. These materials offer a sequentially developed program of writing exercises.

Spelling Skills

Spelling is believed to be a more difficult task than reading because as Lerner (1971) points out, the opportunity is spelling to draw upon peripheral clues is greatly reduced. In reading, the child may use contextual, structural, or configuration clues. However, in spelling, the child must:

1. Remember the form of letters.
2. Remember the letter sequences and rules for particular words.

II. Does the child spell accurately?

A. Does the child remember letter forms?

1. Many of the activities suggested for the development of visual memory are also applicable here.
2. Analyze the type of spelling errors that a child is encountering in order to distinguish the specific letters that seem to be consistently troublesome. Ask the child to write specific letters of the alphabet from dictation. Pronounce different letter sounds and ask the child to write the symbol which denotes that sound. This information may be used in formulating a remedial program.
3. Ask children to complete missing words by filling in the omitted letters. For example: They like to sing ongs. This activity may be varied by concentrating on specific letters in the initial, medial, or final positions.
4. Print difficult words on flash cards for periodic review by the child. Especially troublesome letters can be printed in red. A child's attention is then concentrated on the difficult letters.
5. Tracing letters on the back of the child's hand or his back as described earlier, can be utilized with words. Children must keep the visual image of each letter in memory until the word is on the chalkboard or on paper.

6. Cover up an entire word and gradually expose each succeeding letter until a child can guess the correct word.
- B. Does the child remember the letter sequences in words?
1. Provide children with sets of four words and ask them to circle the correctly spelled version of the word. For example:
mega, gmae, game, gaem.
 2. Make crossword puzzles of particularly difficult words. The puzzles may be made by other children.
 3. Present configurations of specific words to the children. Ask him to match a given set of words with the configuration.
 4. Assign children in the room different letters, blends, ends, etc. Call on a child to spell a word. The child must choose the easiest way to spell the word by selecting children who have the correct letters or groups of letters. For example: The word jumping can be more easily spelled by choosing a child with "ing" rather than three separate children one with "i," one with "n," and one with "g." Children should be encouraged to look for the easiest way to spell a word.
 5. Introduce a word family, such as at. Ask a child to list words in that family. This activity may be made more specific by directing children to add certain letters, blends, or endings and then pronouncing the word.
 6. Write difficult words on the chalkboard. Ask children to study the word for a few seconds. Then erase the word and ask the children to write the word from memory. Underline or circle difficult parts of the word as a memory device.
 7. Ask children to circle all the little words contained within a list of larger words. This activity often serves as a letter recall device for individual spellings of words. Some examples include:
friend, follow, report, oral, hand, easy.
 8. Make a spelling file box of difficult words. Have the child copy the words correctly on flash cards and periodically review them. Encourage the child to study his own flash cards and write them from memory on the back of the card. Words may be deleted and others added as time progresses.

Written Expression

Children with written expression difficulties, experience problems in properly transposing thoughts into written communication. Adequate written expression is based upon:

1. Abundant oral expressive experiences.
2. Understanding and usage of correct syntactical and grammatical patterns.
3. Ability to organize ideas into the appropriate communication form.

III. Does the child have difficulty in expressing ideas in writing?

A. Does the child have an adequate vocabulary?

1. Give children a word, such as run, and ask them to list as many words as they can that are similar in meaning to run. For example: Rush, scat, flashed, hurry, etc. These words may be kept in a notebook to be used as a reference when children are writing stories.
2. Play word tennis with teams of children. In this activity two teams are chosen and the first person in one team says a word, such as happy. Synonyms are provided by successive team members, switching back and forth until one member can no longer think of a synonym.
3. Give the child a word with multiple meaning and ask him to write sentences using the different meanings. Upon completion, discuss the different meanings with the child. For example: Hit, show, bat, watch, file.
4. Have the children find specific words in a story that answer questions asked by the teacher. For example: "Find the word in the third paragraph which describes the size of the town in which Tom lived."

B. Does the child use correct syntax and grammar?

1. Provide the child with sentences having grammar and/or syntax errors which he must correct. The exercises should be concentrated on one type of grammatical or syntactical error. For example:
 Mary have two apples.
 Girls plays with dolls.
2. Provide the child with a scrambled set of flash cards that matches a sentence that you verbalize. The child must place the words in the correct order to match your sentence.
3. Provide children with a list of words for which they must furnish the past tense. For example:
 come (came)
 go (gone)

C. Does the child have difficulty in formulating ideas in writing?

1. Give each child an uncluttered picture of a specific object and ask him to write its name. Gradually add descriptors until a sentence develops.
2. Read an exciting story to the class omitting the ending. Request children to finish the story by writing an ending to it.
3. Provide the child with a number of different sentences. Ask the child to rewrite each sentence, saying the same thing in a different way without changing the meaning of the sentences.

4. Give the child a list of words and ask him to write a short story using the words given. The story can be structured by providing the child with a title for the story.
5. Ask children to write a sentence summarizing a story that was read to them, a film that they viewed, a record that was played to them, or a story that they read. Gradually, increase the length of the summary or abstract.

Arithmetic Problems

The remediation of arithmetic problems experienced by children is an area that has received little attention. Arithmetic difficulties are often related to problems in other academic areas. It is frequently necessary to investigate commonalities among learning problems for the purpose of parallel remediation. Difficulties in discrimination, memory, perception, comprehension, and handwriting can affect achievement in arithmetic as well as achievement in reading, written language, and other academic skills.

Spencer and Smith (1969) note that math skills are so complex in their interrelationships that children may have difficulty in achievement for a variety of reasons. Three basic questions with which the classroom teacher must be concerned are: 1. What deficiencies in number readiness skills prevent the child from achieving in math? 2. What difficulties in computational skills and time and money concepts interfere with progress in math? 3. What specific skill difficulties prevent achievement in problem solving?

I. Number Readiness

1. Number lines permanently attached to the top of each child's desk provide children with a constant point of reference. Longer number lines extending to larger numbers can be placed at the top of the chalkboard or on the floor.
 2. Provide children with worksheets having blank spaces before or after a number. Ask the child to fill in the missing numbers.
 3. Have the child close his eyes and listen to the beats of a drum as he concentrates on counting. Eventually, the child can be asked to make a mark on paper for each sound he hears.
- A. Does the child understand groups or sets?
1. Make children aware of groups by pointing out that similar things form a group. Show pictures or point out groups of animals, fruit, people, etc.
 2. Cuisenaire Rods serve as an excellent device for grouping work. The rods may be grouped according to size or classified according to color.
 3. Play dominos with children and emphasize the various ways

that a number may be grouped. Large dominos may be made on heavy cardboard and cut to appropriate size.

4. Use egg cartons to demonstrate how groups are made up of individual members. Cut the cartons into various sections and place them together to show how a group might be visualized.
5. Have the child form various groupings using the marble board or a set of counting sticks. At first ask the child to duplicate a pattern that you provide. Gradually, verbalize directions to the child such as, "Form a group of six sticks."

Computational Skills and Time and Money Concepts

Most problems in arithmetic are due to deficiencies in basic computational skills (Otto and McMenemy, 1966). Adequate computational and conceptual skills which are fundamental to successful arithmetic achievement include:

1. An understanding of place value.
2. The ability to add, subtract, multiply, and divide.
3. An understanding of fractions.
4. The ability to tell time.
5. A knowledge of monetary values.

II. Has the Child Mastered Basic Computational Skills and Time and Money Concepts?

A. Does the child understand place value?

1. The abacus is an excellent aid in helping children to see that position determines the numerical value of symbols. Children can represent numbers by moving the appropriate amount of beads for numbers called by the teacher.
2. Smith (1968) suggests the use of a place value box as part of the instruction in simple addition and subtraction. A small box with three equal-size compartments labeled "ones," "tens," and "hundreds" from right to left is used for inserting sticks, such as tongue depressors. Children add or remove sticks from the groups located in various compartments as they add or subtract.
3. Ask the child questions such as, "What place does the 5 represent in 3522, or Can you write a numeral with a 7 in the hundreds place?"
4. Sticks or papers tied together and placed as "ones" or "tens" demonstrates the idea of number bases. For example, 37 would be represented by three bundles of tens sticks on the left with seven ones sticks on the right. Children can practice with popsicle sticks in making bundles representing difference numbers.

B. Does the child have difficulty with the fundamental operations of

addition, subtraction, multiplication, and division?

1. Use the fingers to make various addition and subtraction combinations. Hold up a certain number of fingers and add or subtract other fingers.
2. Provide the child with many concrete experiences in learning to add or subtract. Use sticks, paper clips, buttons, raisins, etc. The objects can be used to form various groupings for the more difficult combinations.
3. Flash cards of basic combinations in addition, subtraction, multiplication, and division can be used for developing quicker recognition of combinations. Children can work individually, in pairs, or in groups, either writing or calling out the answers.
4. Have children use dice to practice addition, subtraction, and multiplication facts. Children may write or call out the various answers. Children can continue throwing dice until they respond incorrectly.
5. Prepare forty cards with numbers between one and ten written on each card. Place the cards face down, and have the children turn up two cards. Direct the child to add, subtract or multiply the two cards (Wedemeyer and Cejka, 1970).
6. The number line is an effective device for demonstrating the fundamental operations. The example $3 + 5$ is taught by starting at three and jumping five places to eight.
7. Duplicate or have each child make a multiplication chart. Explain its usage and encourage children to use it freely.

C. Does the child understand fractions?

1. Initiate fraction instruction through halves, followed by quarters and eighths. Provide children with familiar pictures that are cut in half. Ask the child to put the halves together. This procedure can also be used with foods, sandwiches, and cookies.
2. Flannel board fractions that the children cut out, and paper plates that are divided into different colored fractional parts are manipulative materials that provide children with a better understanding of fractions.
3. Provide children with a worksheet in which circles or squares are already divided and shaded. Provide a box in which the child is to write the appropriate fraction for the shaded part (Engelmann, 1969).
4. Prepare a worksheet comprised of a number of equivalent fractions and ask the child to circle the two equivalent fractions in each line. Example: $1/3 = 2/6$.
5. Use fraction number lines to introduce children to whether a fraction is equal to one whole, is greater than one whole, or is less than one whole. Counting forwards and backwards on the

fraction number line may also be helpful.

D. Does the child experience difficulty in telling time?

1. Lerner (1971) suggests the following sequence for teaching time:
 - a. the hour
 - b. the half-hour
 - c. the quarter hour
 - d. five-minute intervals
 - e. before and after the hour
 - f. minute intervals
 - g. seconds
2. Provide the children with TV, plane or train schedules and ask them questions based upon the schedules. Relate the schedules to the clock and have the child find the time on the clock.
3. Have each child make up an individual time schedule of his day. Include activities such as the time for getting up, catching the bus, going to recess, eating lunch, etc.
4. Hofmeister (1968) has developed a highly structured program to teach time telling. The programmed aspect of this material gradually introduces time-telling skills sequentially.

E. Does the child understand monetary values?

1. Provide children with real money whenever possible to teach money values.
2. Set up a grocery store in the classroom with empty boxes and cans of food. Price each item and allow various children to be the store-keeper, cashier, and shoppers using real or play money to conduct business. Adaptations of this activity include holding several items before the entire class and asking them to add the total cost.
3. Paste various objects on cards and label each object with a price. Flash the cards individually to children and ask them to write down the change they would receive from a certain amount of money.
4. Provide children with actual or play restaurant menus. Ask the children to order a meal and total the cost. More advanced students should add tax and tip.
5. Give children newspaper grocery advertisements, if you are unable to set up a school store. Ask children to do the weekly shopping for their mother and total the cost of the groceries (Platts, 1964).

Problem-Solving Skills

Some children with arithmetic difficulties are unable to operationalize number skills in story problems due to specific problem-solving deficiencies. Adequate problem-solving skills in arithmetic

are based upon the child's:

1. ability to understand the language of arithmetic.
2. reasoning and analysis skills in reading story problems.

III. Has the Child Developed Problem-Solving Skills?

A. Does the child understand arithmetical terms and signs?

1. The number lines may be used to develop vocabulary such as before, after, between, larger than, smaller than, and the same as. Children may refer to the number line in answering questions such as:

What number comes just before 7?

What number comes just after 13?

What number comes between 6 and 8?

2. Give children a set of cards numbered from one to ten. Instruct the child to turn up one card and ask if the number comes before or after a number that you choose at random. More or less and smaller than, or larger than, can also be used for this activity.
3. Prepare a worksheet where the operation signs are missing. Ask the child to fill them in. For example:

$$6 \quad \underline{\quad} \quad 3 = 3$$

$$1 \quad \underline{\quad} \quad 2 = 3$$

$$1 + \quad 1 \quad \underline{\quad} \quad 2$$

B. Does the child have difficulty in the analysis of story problems?

1. Have children read story problems and decide on the math operation that is required to work the problem.
2. Discuss clue words in story problems that serve as indicators of mathematical operations. Make children more aware of these key words by underlining or circling them on seatwork papers. Examples: Michael had 9 marbles. He lost 3 of them in the park. How many does he have left? Mother baked 2 pies yesterday and 1 pie today. How many pies did Mother bake altogether?
3. Ask children to write a number sentence after having read a story problem. This process helps a child to see the numerical relationships prior to working out the answer.
4. Provide children with story problems that require a one-step process. The length of the sentences should be short and only essential vocabulary should be included during beginning instruction in problem solving.
5. Johnson and Myklebust (1967) suggest using sentences that emphasize "logic and rational thought" rather than rote memorization. Practice sentences of this nature might include answering the following as True or False.

"There are spaces for one dozen, or 14 more cars."

"John, who is 38 inches tall, is shorter than Bill, who is 3 feet tall."

6. Permit children to formulate their own story problems. Other children in the class might be required to solve the problems, or children can also provide answers to their own problems.
7. Orally analyze the steps that are required to solve a particular problem. Spitzer (1961) lists the following procedures to be used in problem analysis. He recommends using only one or two steps with any one problem.
 1. What is given,
 2. what is asked,
 3. what operation or operations to use,
 4. an estimate of the answer,
 5. the solution, and
 6. a check of the answer.
8. Diagram or illustrate the story problems on the chalkboard for the child. Discuss each part of the illustration. Allow children to illustrate selected story problems.

SELF-CONCEPT

School and Achievement

Self Fulfilling Prophecy and Self-Attitudes

Changing Self-Attitudes

What Teachers Can Do

Importance of the Self-Concept

The self-concept is a dynamic circular force in human lives. Every human is vitally influenced by those around him. The people who are important to him influence what he thinks of himself. The experiences which an individual has every day indicate to him that he is competent or incompetent. As though he were an individual in the center of an arena, he receives information and attitudes from all sides at once. This information comes to him from the outside and influences what he thinks about himself. In other words, the self-concept is forged by the pressures exerted upon an individual from the outside. But the self-concept also is an active ingredient in an individual's experiences. Experiences mold and shape the self-concept, but the self-concept has an active, dynamic role in shaping experiences. This active influential process gives the self-concept its primary importance, particularly those who are attempting to understand the behavior of children (Felker, 1974).

The development of self-esteem in children should be of prime concern to teachers and parents. Self-esteem is cultivated when the child develops a sense of belonging, competence, and worth. The nature and mechanisms of learning are crucial factors in understanding how individuals learn that they belong, are competent, and of worth. Two ideas from the study of the learning process which can aid in understanding self-concept development, and enhancement, are reinforcement and imitation. It has been suggested that self-reinforcement can provide a bridge between learning theory and self-concept. The learning of self-esteem can be facilitated by those who are significant others in the life of the child (Felker, 1974).

Human beings characteristically act with self-awareness. As a child, an individual develops a conception of himself from the reactions of other individuals toward him. In the process of interacting with others, the individual comes to take the role of the other, basing his beliefs, evaluations, and expectations of himself on the beliefs, evaluations, and expectations that significant people in his life have of him. The resulting self-attitudes function to direct behavior.

Applying the self-concept theory to academic achievement, we would postulate that a child's self-attitudes concerning achievement in general and in specific subjects have an influence upon his academic performance. There is empirical report for this postulated relationship from a large number of studies that have found a significant correlation between self-attitudes and academic achievement. Two qualifications must be made to this empirical generalization:

1. a correlational relationship does not indicate causation and
2. it is necessary to specify under what conditions the relationship between self-attitudes and achievement will

be high, and under what conditions it will be low. A possible explanation of the relationship between self-attitudes and academic performance is found in the concept of the self-fulfilling prophecy.

Given the evidence that self-attitudes concerning achievement are related to academic achievement, it would be functional for educators to know exactly what factors affect self-attitudes and, thus, academic success. The evidence available indicates that a student's self-attitudes concerning his ability to achieve can be changed by modifying the academic expectations that parents, peers, and teachers have for the student and by providing successful experiences in critical areas and appropriate models. Again, however, one must take into account the exact conditions under which relationships will hold. For instance, under some conditions a teacher's expectations of a student's ability will have a significant influence upon the student's self-attitudes regarding his ability. But this situation will probably hold only when either the child has a need for social approval from adults or when the teacher has a warm, trusting relationship with the child. In addition, there is some evidence that it is only when the teacher really believes that the child is capable of achievement that his expectations affect the child's self-attitudes (Johnson, 1970).

School and Achievement

It is well established that a relationship between self-concept and academic achievement exists (Wylie, 1961; Purkey, 1970). It is consistently found that positive self-concept is related to good academic achievement. This positive relationship is found for early elementary pupils (Wattenburg and Clifford, 1964), intermediate elementary pupils (Williams and Cole, 1968), and high school pupils (Shaw and Alves, 1963). The relationship is found in both black and white populations and in groups with learning problems of a serious nature (Caplin, 1969; Gorlow, Butler and Guthrie, 1963).

Consistent finding showing this relationship raise the questions of what mechanisms are operating to produce the relationship. The individual with low ability who meets failure would be expected to develop a negative self-image. But the relationship between self-concept and achievement seems to be based on more than inadequate ability. It has been found that self-concept adds significantly to the prediction of performance even when ability measures are taken into account (Binder, Jones, and Strowig, 1970). It has been found that low self-concept is characterized by significant underachievement; that is, the individual with a low self-concept does less well than expected when only his ability measures are taken into account (Shaw and Alves, 1963). One explanation which can be given is that achievement and self-concept could produce lower performance, which in turn would feed the low self-concept, which in turn would produce

lower performance.

Another possible explanation for the relationship is that low self-concept inhibits the individual's participation in learning tasks. It has been found that high curiosity boys have higher self-concepts than a counter group of low-curiosity boys (Maw and Maw, 1970). Various aspects of creativity have also been found to be related to self-concept (Felder and Treffinger, 1971). If the curious and creative person is more able to seek out information and tasks, a low or negative self-concept could inhibit this behavior and produce lower performance.

There are two findings of particular interest to teachers. One is that the positive relationship between academic achievement and self-concept appears to be more definite in boys than in girls. Any study which finds this relationship in a sex-mixed group is likely to find it more significant in the male population than in the female sample (Roth and Puri, 1967; Sears, 1970). This finding is consistent with the majority of self-concept research findings in which self-concept relationships in boys appear to be more stable and predictable. It could also indicate that achievement is a more crucial self-concept factor in boys. It could be that girls have other areas in which they can receive positive feedback or that achievement is less a problem for girls, and therefore adequate achievement is almost a universal factor in the female samples.

The second finding of interest to teachers is that reading has been found to be a vital factor in relationship to self-concept. Self-concept is a better predictor of reading achievement than ability measures (Wattenburg and Clifford, 1964). The relationship exists through elementary school years (Williams and Cole, 1968) and on into high school (Robeck, 1964). It is found for both boys and girls (Herbert, 1968). Considering the importance of reading in school performance this relationship is not surprising. It does point out, however, the dramatic influence which words and word-related activities have on self-concept.

Quimby (1967) tested the self-concept by a Q-sort method of achievers and underachievers who had been selected on the basis of grade point average. She found a relationship between low self-ideal and underachievement. She assumes that a student with the adequate self-concept, feeling that he can succeed, will put forth the necessary academic effort. Williams and Cole (1968) found significantly positive correlations between self-concept measures and conception of school, social status at school, emotional adjustment, mental ability, reading ability, and mathematical achievement.

If the teacher, for example, knows that a student is an underachiever or if the student comes from a background that places him at

a disadvantage in the school, the teacher can find out whether or not self-attitudes concerning achievement are contributing to the low performance through talking with the student or observing him. In other situations it might be much more difficult to determine whether raising a child's self-attitudes concerning his ability to achieve will appreciably raise his actual performance. What is important for the teacher is to be able to diagnose when self-attitudes concerning achievement are affecting actual achievement in order to intervene in ways that will raise the self-attitudes of the student in question and, consequently, raise his actual achievement.

Self Fulfilling Prophecy and Self-Attitudes

A child believes that he cannot comprehend arithmetic. During arithmetic period the child daydreams, worries anxiously about what will happen to him due to his inability to understand multiplication, and generally ignores the lesson and the assigned work. Because of his lack of study he fails the arithmetic examination. The child has just engaged in a self-fulfilling prophecy. The self-fulfilling prophecy, is, in the beginning, a false definition of the situation that evokes a new behavior, which enables the originally false conception to come true (Merton, 1957).

Consider the case of two children coming to a new school at the beginning of the year. One child expects his new classmates to dislike and reject him and, therefore, he is very guarded and suspicious of his classmates, which in turn, makes his classmates withdraw and look elsewhere for a friendly companion. "See," he might say, "I was right. I knew they'd reject me." The other student, however, comes to school expecting that almost everyone will be congenial, friendly, and good-natured; he initiates warmth and friendliness and consequently he finds his classmates to be all that he expected. Each of these children has engaged in a self-fulfilling prophecy.

A student's self-attitudes can readily lead to a self-fulfilling prophecy. A student who thinks he cannot learn to read may fulfill his own prophecy; a student who thinks he is unlikeable may find his subsequent behavior causing his expectations to be confirmed. For the teacher the problem is to be able to break the cycle of negative self-fulfilling prophecies and create positive self-fulfilling prophecies to increase the level of achievement of the students in the classroom. The way in which the vicious circle of the negative self-fulfilling prophecy is broken is by abandoning the initial definition of the situation that has set the circle in motion (Merton, 1957). When the original assumption is questioned and a new definition of the situation is achieved the circle is broken. When the student who thinks he is too stupid to learn to read changes his self-conception of his reading ability, the self-fulfilling aspects of his self-attitude end.

Changing Self-Attitudes

There is strong evidence that self-attitudes concerning achievement are related to academic achievement. There is not, however, evidence that having a positive self-concept "causes" the student to achieve well. But there is evidence that one may raise academic achievement by changing a student's self-attitudes.

There are a variety of ways in which a student's self-attitude concerning academic achievement may be changed in a school setting. Most of these involve modifying the images and expectations that existing significant others hold of the student's abilities. Of the three significant others involved -- parents, teachers, and peers -- Brookover (1962) found that parents were seen by the majority of the students he studied as being "most important in their lives" and "concerned with how well they are doing in school." Rosenberg (1963) demonstrated that when parents manifested indifference toward their children, the children later exhibited low degrees of self-esteem. In his study of the relationship between self-attitudes and achievements, Brookover counseled parents of low-achieving, ninth grade students in the need their children had for expressions of their parents' faith in their children's ability to achieve. In cases where the parents changed their evaluation and the change was apparent to the children, a gain in grade point average was shown by forty-two percent of the children. This study demonstrates that parents can affect a student's self-attitudes and raise his academic performance. One way in which a school can raise the self-attitudes of under-achievers is to enlist the aid of the parents and have them express positive expectations about their children's ability to perform well academically.

Another approach has been to offer intensive counseling to those students with low self-attitudes concerning their ability to achieve. Dolan (1964) conducted a study aimed at improving the scores in reading of junior high school students by changing their self-attitudes of their ability through intensive counseling over a six month duration. The experimental and control groups were both randomly selected from a population that was characterized by high ability, low achievement, and low self-esteem. Subjects in the experimental group were given intensive counseling aimed at raising their self-esteem. All groups were then retested in regard to both reading and self-esteem. The experimental group made significant gains over the control group in both areas.

What Teachers Can Do

Ten Keys to Better Self-Concept are:

1. Adults, praise yourselves.

2. Help children to evaluate realistically.
3. Teach children to set reasonable goals.
4. Teach children to praise themselves.
5. Teach children to praise others.
6. Praise for mental attitudes or conditions -- feelings and ideas.
7. Praise for choice of materials.
8. Praise for result achieved.
9. Praise for methods used in achieving an end result.
10. Praise for reactions to end results.

Finally, perhaps the safest approach for the teacher is to try everything at the same time. That is, the more support for the new attitudes and behavior that can be generated, the higher the probability of change. A teacher might enlist the aid of a student's parents and peers, express his own positive expectations more clearly, encourage the student to join a counseling group, and provide a variety of success experiences and possible models. Such a "shotgun" approach will be the most effective under most conditions.

HUMANISTIC EDUCATION

Methodologies

Processing

Upgrading Behavior

Role Playing

Discussion Methods

Needs

Self-Concept

Risk-Taking

Change

Anger

Joy

Humanistic Education

Affect and cognition, feelings, and intellect, emotions and behavior blend in an affirmative framework of values derived from the humanities and form positive conceptions of mental health. These are the hallmarks of humanistic education. Humanistic education may concern itself with any justifiable subject matter in which is imbedded knowledge of the whole self in relation to itself, to the other, and to the eternal environments of space and time, inner and outer mysteries. Its methodologies, however, represent a set of values derived from a model of human nature and an ideal of human life, which make them especially appropriate processes for learning content that requires personal development as well as intellectual assimilation (Simpson, 1976).

Methodologies Integral to Humanistic Education

First, social technology derived from the behavioral sciences has produced a valuable intervention and powerful format for self-directed change: the small group experience. In one form or another -- usually a circle of some kind -- this useful structure has become ubiquitous as support, experience, reference, community, and mirror.

Second, another change made in curriculum-simulation exercises and educational games has permitted a shift in teacher-student authority relationships and provided an in-house base for the active experiencing of planned, shared, emotional, and intellectual content. These games have often provided a legitimized mode of temporarily stepping outside self-consciousness and rationality -- license for being during an intense and thought-free involvement similar to that of certain forms of aesthetic or athletic experience. Return passage is vouchsafed through the analysis that unites the experience with its meaning.

Third, language as a major symbol system in description, report, creation, and analysis has been used to expand the conceptual ability of the learner and to consolidate and integrate affective explorations through free associations, story telling, games, poetry, dance, drama and ritual, imagination, fantasy, dreaming. All serve to combine feeling and intellectual experience.

The fourth methodology is the curriculum of the planned environment contextual learning -- either within the school or without. Questioning, observing, responding, manipulating objects, students encounter the community beyond the school walls as they also do in play, in the search for answers and holistic experience, and, increasingly in cooperative work or community service. They are put to action, to the active exploration of reality at all stages of human life, set out to learn from those who know, who are themselves primary sources. This

curriculum is built of human resources, drawn upon in situ and not artificially transported to the schools, in ways that engage the learner and increase his knowledge of himself, his relationship to the social life of his time, and the meaning of that relationship.

Fifth, the use of the body for the physical embodiment of abstract concepts through movement, dance, drama, and role play builds psychomotor, feeling, and thinking competence. Drawing on knowledge of early developmental stages when thought and feeling were embodied in action, this methodology serves to integrate them at a higher level. People know more than they can put into words. The body provides another sensitive modality of expression. In a society where sensuality has been conventionally repressed, the natural state of physical awareness may have to be taught. Role play and dramatization when properly used, are simple yet exceedingly powerful tools to achieve this (Simpson, 1976).

Role playing is effective when it is not the taking of roles as abstractions of tasks, norms, and expectations in the sociological sense. It enlarges the aptitude for empathy only when the player is able to take on the dilemma and circumstances of another whole person -- one who is in three dimensional, living color and not a stereotype. Forced into two dimensions by a narrow script, players almost invariably find their own way out of the fraud, either by remaining themselves and responding as such or by spontaneously contributing responses and traits to the rounded development of the pallid figure who neither breathes nor acts except within the boundaries of rigid social role definitions. For many, the capacity for empathy does not automatically unfold in the course of biosocial maturation; it is the product of environmental interaction. Often it needs to be taught, so the fact that others have their own, often differing, perceptions and feelings is brought to consciousness, and practice is facilitated in the identification of these perceptions and feelings.

Sixth and last, the expression of the creative unconscious through the arts is a powerful and little used means of self-development. The arts provide opportunities for knowing and for description that neither logic nor science can present. Art is expression and response. Clinicians have testified that unconscious creative process which he does, provides an unobtrusive yet powerful means for the development of self within the curriculum (Simpson, 1976).

Processing

What we are calling affective education or humanistic education could also rightly be called "process education," for it involves a continual looking at the "how" of human behavior. In school there tends to be great emphasis on the "what" of learning. How something is may be more important than the something itself. For instance a

teacher can teach a child both to do math and to hate math. Thus, education to feelings, attitudes and values is an essential part of the learning process.

A list of process questions would be:

1. What is going on right now?
2. How do you feel about what is happening?
3. What is the last thought you just thought?
4. Where are we in terms of the task?
5. What would it take to...
6. How would you respond if I ...
7. I was most comfortable about...
8. I wish...
9. I wanted more...
10. Collect highs and lows from the activity.

Worksheet in Upgrading Behavior (WUB)

The purpose of the activity is to identify a behavior pattern that the behavior wants to change or upgrade. It is best used after a dynamic, involving activity that represents a "confrontation experience" -- one in which a person behaves by reacting or responding to a situation in a fairly predictable way. An example which might be used in class to teach the "wub" model -- is announcing to the class, as if by a sudden decision, I need eight volunteers for something. Do not tell the class what you need volunteers for, even if asked, and simply wait until you have them. Then stop, thank whatever volunteers responded, and begin to process the behaviors by asking kids to tell -- or better, write down -- exactly what they thought, felt, and did in the volunteering situation.

Group Methods

Small groups have some of the greatest educational payoff of any kind of interaction there is, and yet teachers traditionally make little or no use of them beyond reading groups at lower elementary level. The dynamics involved in any small group are so numerous and operate so quickly that there is usually enormous energy on tap. The problem for leadership is to turn the energy to best advantage for learning. Small groups for the classroom should be mostly task-groups. The directions for organizing the groups, the task and the time limits must be made clear at the outset. A dyad, or partnership of two, is often the best way to process an activity, discuss a topic, or practice an interaction skill. As soon as you create partnerships, you have automatically created a structure for the greatest amount of simultaneous interaction your class can conduct. There can be no takeover of talkers, or withdrawal of listeners. Half the people in the room can talk at once, quietly and be attended to very well.

Large group size is an important factor to an activity. Young children operate well in groups of four to eight, if the task is to be largely verbal, while older groups can get along well with from eight to fifteen. As the number of participants in a group goes up, the opportunities for each to participate go down and children begin to use power roles to get the attention they want and need.

Role Playing

Children are natural role-players, and we can learn from them how it's done most effectively. In the most effective and productive of role-plays there seems to be a combination of playing the role of the person or type assigned, and at the same time, being one's own feelings. No great acting ability is called for in roleplay. There is no script; this is spontaneous interaction. There is no expected outcome either. They are simply playing at being someone else in another situation. Who they are, what they bring to the roleplay in the raw material of feelings, thought and personal values, is the substance of roleplay.

Discussion Methods

A discussion can be an effective learning experience. Many teachers teach largely by discussion, whereas others rarely use this tool in the classroom. Analysis of classroom interactions where much discussion takes place reveals that often the teacher is talking much more than the students and does not know it. As with any learning activity, the key question seems to be: how much are kids involved in terms of their own concerns? The reason that many classroom discussions prove deadly for the learner is that the model we call a discussion is little more than an invitation for the talkers to talk and the listeners to listen. Some suggestions for making discussion more effective in terms of learning are as follows:

1. If possible, start with a discrepant event such as a catchy sentence, a roleplay presentation a group has previously prepared, a picture, a behavior in order to motivate the learner.
2. Structure for quick, easy responses by everyone. This can be done by placing an issue statement on the board and asking for one sentence response or by using a sentence stem ("if I had a million dollars...").
3. Don't be afraid of silences, be aware of who talks more -- you or the children. Try to make your comments only the needed ones and be open ended. Give time to ponder and wonder.
4. No easy answer, or no one right answer. You will involve more of the group if it is evident from the outset that all contributions will be encouraged and protected from judgment. Where there is only one right answer, use another technique for learning than discussion.
5. Maintain a facilitator or moderator role. Demonstrate your

neutrality. Encourage contributions by reflecting what kids say. Your demonstration of listening skills will do far more to encourage growth, learning and risk-taking than will your own inputs -- even if you know the answer or know how to say it better.

6. Allow for non-closure. Just because kids don't have the answer don't think learning and involvement aren't happening. Stop discussion when the group energy peaks, not when the answer is reached.
7. Process the discussion. Deal with here and now thoughts, feelings and behaviors by occasionally stopping to ask things like:
 - what does it feel like to do this?
 - what do we want to do with this, as a group?
 - are we on or off the subject?
 - what were we just doing?
 - what did we want from that discussion? did we get it?

ACTIVITY SECTION:

Acceptance

- to help students accept themselves more
- to promote understanding of the importance of acceptance as a common human need
- to facilitate awareness in a student concerning which of his and others' behaviors are acceptance-seeking behaviors
- to widen the range of alternative behaviors for giving and gaining acceptance

Discussion starters:

- what sorts of behaviors (what you can see a person doing) show acceptance and non-acceptance on the part of a person? group?
- what words show acceptance: non-acceptance?
- what other parts of a spoken message besides words show these? (tone, loudness, pace, intensity, etc.)
- are acceptance and love the same? how are they different?
- something in someone else that I don't accept
- how I gain acceptance from people
- a time I felt really accepted
- the difference between being acceptable and accepted
- I feel most unaccepted when ...
- the most accepted person I know

Activities:

- Skits: take volunteers from the class who will agree to act

out a skit. Have them choose a topic from the following list:

- being new
- I was chosen last
- breaking into a group
- someone kept me out
- someone showed me acceptance when I really needed it
- Acceptance in song: this theme is a frequent one in pop music. Have a committee collect phrases or entire songs from the current hits which illustrate people's need for acceptance.
- Make individual lists of "things I don't feel accepting of in others." Ask students to compare lists, and to share any "I learned that I" statements with a partner.

Needs

- to enable students to identify needs as sources of behavior
- to have students appreciate the variety of needs different people have
- to have them understand that people behave out of unmet needs
- to make them aware of their own individual styles of expressing or fulfilling needs

Discussion starters:

- All behavior comes from needs -- agree?
- The world's greatest need -- what?
- If you were stranded on a desert island what three things would you want besides food and water? Rank order them in importance.
- Discuss what teacher needs.
- How I get what I need.

Activities:

- Watch a TV soap opera in class and list all the ways you see that characters in the drama get their needs met. Do you use any of those ways? How can the same identical needs be met in other ways?
- What needs are met by:

watching a football game	biting your finger nails
playing football	saving money
sleeping late	having kids
skipping class	joining a club
putting down someone	making a friend
buying a new car	others
- Tape record a party or dinner at home. Analyze in terms of how people get what they need.
- All of us need attention, acceptance, approval, affection. Brain storm the possible ways to get these things.
- Create a need box where students can anonymously make needs known

to you. Even though you won't know who has the need, you may be able to adjust the environment to fulfill the need.

Self-Concept

- To help students realize that their perceptions of the world have much to do with the way they feel about themselves.
- To promote more positive self-concepts in children.
- To build awareness of the fact of others' self-concepts and of how these impinge upon interactions with the self.
- To build skills of self-affirmation.

Discussion starters:

- What can you tell about a person's self-concept by the way he or she walks? talks? dresses? makes choices?
- Who made your self-concept?
- How does a person change the way he or she sees himself?
- A time I feel foolish...
- A time I feel most okay about myself...
- Something I don't like about myself...
- What I'd be like to live with...
- How I put myself down...

Activities:

- Have each student make an anonymous list: "Five things I don't like about myself," and the five things I like about myself, and hand them in. Questions following the listing: Which list was easier to make? Why do you think this is so? As you think of the items you listed, do you think anyone else in the group might have put down the same or a similar thing?
- The next day, present on ditto copy to the entire class a compilation of the items. Show how many people mentioned each thing. Questions following the compiled handout: Do you find your items on the list? Did your predictions about others come true? How does it feel to find out that others listed the same or similar things? To find out what others listed that you did not?
- Share the books T.A. for Kids or T.A. for Tots with your students. For high school and above, distribute the workbook entitled Winning with People.
- Self-concept inventory. This may be done as an anonymous handout. The results tabulated and shared as a "class self-concept."
 - Place an X on the line where you see yourself in each case:
 - smart.....dumb
 - beautiful.....ugly
 - strong.....weak

likeable.....unlikeable
 fast.....slow
 leader.....follower
 alone.....with others
 okay.....not okay
 acceptable.....not acceptable

Risk-taking

- To become aware of one's behavior in terms of risk-take and security-seeking.
- To test the limits of one's individual risking boundaries.
- To set up an environment where contrived risk-taking can be practiced.
- To learn to be sensitive to the different degrees of risk-taking behavior present in any group.

Discussion starters:

- How do you feel when you are risking something?
- Where do you risk most often?
- What part does trust play in risk-taking?
- If you never risk, you can't get very hurt, but then about all you can say about your life at the end is: it was safe. What is being said or suggested here?
- What I feel when I see others risking?
- A risk I took and was sorry.
- What I tell myself when I take a chance.

Activities:

- Personal risk inventory: with the risk being 10 and security being 0, rate following behavior 0-10.

driving a car	having your poem read aloud
flying a plane	in class
asking for a date	telling your teacher you
accepting a date	think you were treated
telling people how you feel	unfairly
making a promise	arguing with parents
keeping a secret	
- Make lists: I dare to... and I don't dare to...
- Smile at or talk to someone you don't usually talk to.

Change

- To legitimize change as a constant in our lives.
- To widen students' options for behaviors as responses to change.
- To increase awareness of the world as a changing place.

Discussion Starters:

- How is the world different from what it was yesterday?
- How are you and I different from yesterday?
- What would you do if, when you went home from school today, your house and all the houses around it were gone?
- How I've changed in the past year.
- A change I expect in the future.
- How the world will be changed by the time I'm grown up.
- Moving, and being in a new situation.
- A change that concerns me.

Activities:

- Change the classroom environment: this could be done as a surprise to the class, or with their cooperation and planning.
- Oddly changed behavior: a day before, assign a child to act radically differently for the first hour of the next day, and to tell no one why. Tell two other students about the assignment and have them observe and take notes on interactions of other students with the roleplaying child. Have them note the verbal and nonverbal expressions of the children. Brainstorm - ? feeling of all that were going on.

Anger

- To demonstrate that all people experience anger.
- To help kids view anger as an "okay" emotion
- To increase discrimination in kids' thinking between anger and the behavioral results of anger.

Discussion starters:

- What do people sometimes do when they're angry?
- Brainstorm anger and list things we do with our anger.
- What things cause anger?
- How can you show someone else you are angry?
- How are anger and fear related, if at all? Anger and hurt? Anger and frustration? Anger and power? Anger and need?
- What bugs me...
- How the thing I did with my anger hurt someone...
- A time I got very angry...
- I can name a style of anger...
- A list of things I do with my anger...
- Underneath my anger there's...

Activities:

- Feeling card game: make up a set of "playing cards." Each player in a group of eight should have six cards. Children should act out feelings either using facial expression, body

- language, or interaction using another player.
- Bulletin board of "anger in the news" with pictures and/or articles clipped from news media.
 - Assertiveness training: have students sit in pairs back to back. Directions: one of you is to say yes -- as if you are trying to get your partner to do something. The other is to answer no as if this is something you don't want to do. Do this many times, back and forth, just to see how it feels. Process with "I learned that I..." statements between partners in total groups.
 - Anger flag: provide a place where a small red flag may be hoisted easily, by you or any of the students. Explain that anyone is free to raise the flag when they want to show they are mad at someone or about something.

Joy

- To broaden students' definition of joy to include identifiable every day experiences.
- To help students to begin to see joyful experiences as ways to release human potential.
- To facilitate understanding of the effect joy/sadness has on others and vice versa.

Discussion starters:

- Is joy self-created or other-created?
- Is joy the same thing as happiness or pleasure?
- A way I experience joy repeatedly.
- What I think we ought to celebrate.
- How I express joy.
- People who give me the most joy.
- What I enjoyed most this past week.
- A positive thought which keeps coming back to me.

Activities:

- In small group (4-6) brainstorm the creation of a joy machine. Then share in some way such as describing, drawing, acting out, giving a sales pitch for, etc.
- Ingredients list: consider what these elements have to do with joy: aesthetics, people, common tasks, humor, material things.
- Write a play that shows how people affect others' joy and how a person creates his own joy.

(Activities taken from Strategies in Humanistic Education, Vol. One by Tim Timmermann and Jim Ballard, 1975: Mandala P.O. Box 796, Amherst, MA 01002.

BEHAVIOR MODIFICATION

Token Economy

School Token Use

Behavior Modification

The works of B.F. Skinner and of the investigators who were influenced by him are a good example of how psychologists progress from basic laboratory work to applied clinical work. In the mid-1930's, Skinner reported his early research with rats in laboratory experiments.

A major step forward in the development of behavior modification was made by Lindsley and Skinner in their studies at Metropolitan State Hospital in Boston. They worked with fourteen male psychotic patients who averaged thirty-eight years of age and seventeen years of hospitalization. Each was placed in a small experimental room-in-effect, a large version of Skinner's box, designed for human beings. The response being measured was pulling a lever like the one on a vending machine. Candy, cigarettes, or colored pictures were used as reinforcing stimuli or rewards consequent to the lever pulling. Lindsley and Skinner used a variation based on Skinner's earlier studies with rats; they used a schedule of reinforcement rather than reinforcing each lever pull. Thus, the individual might receive a reinforcement at an average of one a minute (a variable-interval schedule), or he might receive a reinforcement for every tenth lever pull (a fixed-ratio schedule). The results obtained by Lindsley and Skinner indicated that the performance of the psychotic patients was determined by the reinforcement program in much the same way as the performance of animals had been (Lindsley, 1956). Further, there were differences in performance that were related to the particular schedule of reinforcement that individual received. The authors concluded that the behavior of the psychotic patient could be successfully studied with operant conditioning procedures. The behavior generated was stable and predictable and thus could provide a uniform baseline for studying variables involved in changing human behavior. This finding was important because previously it had been believed that the behavior of the psychotic was, almost by definition, unpredictable.

Token Economy

The next major step involved the substitution of a token for such specific reinforcers as food or cigarettes. Physically a token could be a piece of plastic, a poker chip, a check mark on a piece of paper, or even green stamps. A token is essentially an object that stands for something else having back up reinforcers behind it. The most obvious token in real life is money. The advantage of a token over a specific reinforcer is that it is a generalized reinforcer -- there need be no concern about whether the individual likes a specific food or is satisfied with it or will consume it on the spot. The token gives him freedom of choice. The use of the token represented a major breakthrough in the application of operant conditioning to clinical problems. It paved the way for token economy, which represents one method of behavior modification, but not the only one that has been used (Skinner,

1955-56).

School Token Use

A major extension of the token system was its movement into the classroom. Bijou and his collaborators were the first to introduce the principles of token economy into a classroom, working with retarded children at Rainier State Hospital in the state of Washington (Bijou, 1968). An even more recent development has been the extension of the token economy approach into a normal school whose students have some specific problem behaviors. A study reported by O'Leary and Becker is the prototype of token programs in the classroom. The teacher was faced with the problem of coping with a class of seventeen children, most of whose behavior was disruptive. Observers were sent into the classroom to rate the specific behaviors.

Observations were focused on the eight most disruptive children. Two observers recorded behaviors labeled deviant (for example, pushing, talking, making a noise, and chewing gum) every thirty seconds for an hour and a half on three days in a week. Behaviors manifested during the observation periods were classified as either disruptive or non-disruptive. On the first day of training, the experimenter put the following words on the blackboard: "In seat, face front, raise hand, working, pay attention, desk clear." The experimenter then explained that tokens would be given for these behaviors and that the tokens could be exchanged for candy, comics, perfume, and so on. The teacher, during several brief class interludes, rated the extent to which each child had met the criteria. For the first three days, tokens were exchanged at the end of each period; tokens were then accumulated before being cashed in, first for two days, then three days and finally four days. The process was designed to fade out the back-up reinforcers gradually so that the more traditional, acquired reinforcer of teacher's praise could take over. In addition, group points were awarded for quietness of the group during the rating period. Verbal praise and ignoring disruptive behavior (extinction) were also used, as appropriate. During the baseline observation period, the disruptive (deviant) behavior ranged from 66 to 91 percent of the observations. The daily mean of observed disruptive behavior dropped to a range of from 4 to 32 percent during a period of token training (Ayllon, T. and Azrin, 1968).

The notion of a time-out room has become an important one in behavior therapy with children. The room is usually empty of distracting or attractive stimuli, and the child is not let out until he is calm or quiet, so the reinforcement of being released from the room is contingent upon this desirable behavior.

APPENDIX B

INSERVICE MATERIALS

The following materials were demonstrated and used by the teachers as part of the experimental study. The following materials were chosen by this examiner because of their availability through Special Education Media and Information Services and also their demonstrated effectiveness in past dealings with the education of special children. Each material used in the present study is described with accompanying research data.

DIRECT INSTRUCTION SYSTEMS FOR TEACHING ARITHMETIC AND READING

Distar is an acronym for this program. The Distar reading materials evolved during several years of research in one of the programs being conducted at the Institute for Research on Exceptional Children at the University of Illinois. The study concentrated on children who were socioeconomically disadvantaged and thus qualified as "exceptional." This project was originated in 1964 by Dr. Carl Bereiter, a psychologist, and Mr. Seigfried Engelmann, a former advertising and promotion man.

The authors identify their approach as "an intensive, fast-paced, highly-structured program of instruction..." The program is, indeed, all of those things. Intensive drill sessions, as demonstrated by Engelmann, generate the excitement of cheering sections, with the children enjoying the rhythmic, whole-group response. It is fast-paced by means of the often repeated direction, "Say it fast." Insistence on immediate and fast responses is one of the features of the program. It is highly structured, with word-by-word instructions provided in the spiral-bound teacher presentation booklets. Creative teachers are admonished not to resort to a language-arts approach. Sequencing is the essential feature of the method.

Nine basic sounds are taught. The first is "m." After getting attention, the teacher says, "Listen to me: MMMMMMMMMMMMM Say it slow: mmmmmmmmmmmmmmmmmmm." The nine basic sounds are: "m, a, (as in and), s, e (as in eat), f, d, r, i (as in in), and the th (as in this)." The sounds are represented by lower-case letters, and some practice is given in visual perception through the presentation of contrasting symbols in pairs, such as u - n, f - t, b - d. Similarly, th is contrasted with sh, ch, and wh.

The Distar alphabet joins several letters and distorts several as a temporary initial teaching measure. "Silent letters" appear in half-size print at first, reaching full-size by the end of Phase I (one hundred eighty school days). All letters (representing sounds) are lower case throughout the first year of instruction. Rhyming is another feature of the program. The objective is to focus

on parts of words. This may be explained psychologically as practice in auditory constancy and/or auditory memory. Irregular words are taught but not until mid-year. Spelling by sounds is an important part of the program for the first sixty days. Praise is part of the program, but it is structured as to what the teacher is to say and when she is to say it. One of the rewards of the program is a payoff of a small handful of raisins for good work.

Research Data

Thirty teachers in schools, chiefly in Chicago, have been engaged in using Distar materials and methods in beginning reading instruction with approximately 1200 middle-class and disadvantaged children in nursery schools, kindergartens, and first grades. Results from these experiments are not available as yet.

The Distar program was matched against a conventional Head Start program in the Canton (Ohio) public schools during the summer, 1967. It is reported that phenomenal gains were registered by the Head Start group (Young, 1968).

A study conducted in the Stockton, California school system reports that the ninety-eight first grade children in The Distar program achieved a mean raw score of 39.05 on The Stanford Achievement Test in reading compared with 28.38 for the one hundred twelve children in the basal text program. The difference in the means was 10.67, which is significant at the .01 level (Aukerman, 1971).

PALO ALTO READING PROGRAM

The Palo Alto Reading Program is published by Harcourt, Brace, Jovanovich under the title "Sequential Steps in Reading." The program originated in the Palo Alto Unified School District during the years when its author, Dr. Theodore E. Glim, was Language Arts Consultant for that school system (Aukerman, 1971).

The Palo Alto Program consists of twenty paperbound pupils' books and twenty workpads. These are not given a grade designation. The child moves from one book to the next at his own pace. The workpads incorporate writing activities that precede the reading, rather than following it. The child's involvement in writing activities forms an essential part of the method which provides skills and understanding necessary to succeed with a specific reading booklet. Since writing is involved, spelling also is involved. Aids for this include letter cards, individual spelling pockets of the type often made by classroom teachers, flannel board practice, and word cards.

Books 1 through 4 cover the single consonant-short vowel-final consonant pattern which is so common to the linguistics-

phonemics approach: "pat, pot, pit, put, pet, etc." Book 5 includes consonant clusters (spot, must, went, plan, etc.). Long vowels and silent-e (make, like, note, etc.) are contained in Books 6 to 8, as well as "o" and "u" (some, move, rule, etc.). Consonant digraphs; in Books 9 to 11, are presented to the child. Inflectional endings ("ed" and "ing") are contained in Book 12; "ur, er, it, and or," in Book 13, as well as the long "i" sound represented by "i" and "y." It is not until Book 14 that irregular phonemic elements are handled, plus the suffixes "er" and "est." The Program concludes with vowel digraphs and diphthongs and a few prefixes in Books 18 through 20.

Research Data

Although the Palo Alto Program was developed by the staff working over a period of three years, not enough time has elapsed to provide for the accumulation of definitive statistics. Careful research should be designed, for the Palo Alto Program tends to be a self-contained program for the first two years. Unlike many others, it does not depend upon transfer of skills into a basal reader series or into independent reading until the third grade. At that time, it is anticipated that the children will be moved into individualized reading selection.

In summary, it should be noted that the Palo Alto Program was devised by the staff of a public school system for use with average and below average learners (Aukerman, 1971). The objective of this linguistics-phonemics approach is to provide "sequential steps" during which the child will acquire the decoding skills necessary for successful reading achievement. This involves limitations that prevent this program, as well as others, from being exciting and stimulating in content. There is no published evidence that its "sequential steps" are significantly better than other approaches.

PROGRAMMED READING

Programmed Reading is a linguistics-phonemics approach which grew out of the work of two individuals who had become especially interested in the possibilities of programmed instruction. Cynthia Dee Buchanan at Harvard and Dr. M.A. Sullivan at Hollins College were the originators.

Programmed Reading consists of a sequence of workbooks in which the child is required to write his responses rather than just to check choices as is the case with some other programmed materials. Thus, by writing letters and words as part of the process, the child reinforces "reading." Learning with this approach is, to a large extent, an encoding process and not what is usually thought of as "reading." One of the advantages of programmed materials is that they permit the individual to proceed at his own rate of speed.

Research Data

A study reported by Sampson (1971) dealt with eight educable mentally handicapped children who had been given training in the programmed reading workbooks. It is interesting to note that word recognition scores were significantly above comprehension scores in the fall, but that the differentials had been significantly reduced or eliminated entirely by the time of testing in the spring.

Satisfaction has been reported by others using the Programmed Reading materials with low and/or remedial groups. The inherent advantages of having materials that are programmed with specific phonemic skills as a base, and having self-tests and immediate knowledge of the results of each individual response, should be of greatest value to low achieving youngsters who need the constant and repetitious motivation that comes from immediate knowledge of success.

Moreover, programmed materials, such as found in the Sullivan-Buchanan sequence, provide the small increments of learning which slow learners can assimilate more easily. The fact that the programmed workbooks provide a means for individual speed of learning is also of prime importance in working with remedial cases (Aukerman, 1971).

LANGUAGE EXPERIENCES IN READING

Language Experiences in Reading is a series of pupil and teacher materials which are the outgrowth of the work of a number of educators over a period of years. The authors of the materials are Van and Claryce Allen. Dr. and Mrs. Allen have been engaged in developing the materials for a number of years, but only recently has the formalized approach been available in published form. The books are published by Encyclopedia Britannica, Inc.

The contribution of Language Experiences in Reading (L.E.I.R.) as an approach to beginning reading is that it implements a program of language development which does not separate reading from the development of other communication skills such as listening, speaking, writing, and spelling. The language-experience approach uses the language and thinking of individual children as the basis for skill development. As each child matures, he thinks of reading in a rationale which has been outlined by Dr. Allen, the originator of the materials, as follows:

1. What I think about, I can talk about.
2. What I say, I can write (or someone can write for me).
3. What I can write, I can read (and others can read too).
4. I can read what I have written, and I can also read what other people have written for me to read (Allen and Halvorsen, 1961).

The child uses the words he wants to say and to read, and then sees those words printed on paper for him to read and to copy and to read again. The words are his words.

- A wide variety of "experiences" is suggested in teacher materials:
- field trips for simple observations;
 - demonstrations, showing how things work;
 - films on many topics of interest;
 - listening to stories and poems everyday;
 - sensory experiences.

The experience charts and the pupil activities workbooks are the major parts of the program.

Research Data

The authors of the Encyclopedia Britannica LEIR program do not claim any definitive research statistics on their approach to beginning reading. In fact, Dr. Allen points out that the program is more the result of "search" rather than "research." The program has been in use rather extensively in certain schools in Texas, in San Diego County schools during 1964-1965, the object of which was to determine whether or not it produced results that were significantly different than those obtained through the traditional basal reader approach. Teachers in the language-experience approach utilized daily blocks of one hundred twenty minutes. They were aided by Dr. R. Allen (1966). Teachers in the traditional basal reader approach were aided by Dr. Dawson. There were twenty-seven teachers in each group in twenty-seven communities, with approximately seven hundred fifty first grade children in each group.

Among the various measures of achievement in the language arts were measures on The Stanford Achievement Test. Significant differences favoring the traditional method were found in scores made by boys in all socioeconomic groups on the paragraph meaning section, and by girls in the middle socioeconomic groups. There were not significant differences in word meaning, or in vocabulary. Boys from the low socioeconomic group showed significantly higher interest in reading after having been in the language-experience approach (Kendrick, 1966).

PERCEPTUAL-DISCRIMINATION APPROACHES

The advocates of perceptual-discrimination approaches to beginning reading base their strategies on the theory that the reading process is a visual tracking skill. Their materials and methods are designed to provide sequential practice in visual-motor skills. Many originators of the materials are engaged in special programs for children with special learning disabilities. Basically, the theory consists of two parts: first, that an individual must be

able to hear and to differentiate between spoken words and between parts of spoken words, and then must be able to see and to differentiate between visual word symbols and between visual letter symbols which represent those spoken sounds; second, that auditory and visual perceptual-discrimination is a learned skill. Consequently, a number of systems of auditory and visual perceptual-discrimination training have been devised as approaches to beginning reading. Indeed, they are generally considered by their sponsors to be prerequisites to reading.

Among the many so-called "reading readiness" materials which have been widely used in kindergartens and first grade classrooms are the worksheets produced by the Continental Press (1958). Their use has been based upon the expectation that the child will benefit from a sequence of perceptual-discrimination tasks. Also for a number of years, reading-readiness activities have included many variations of matching, comparing, positioning, and copying tasks. The wide range of activities includes dominoes, cut pictures, insert picture puzzles, parquetry cards and boards, maze tracing, copy forms, sandpaper shapes, and stencils. Observation of shapes and the procedure known as the Fernald technique (1943) has been widely copied and adapted. Most, if not all, of these materials and techniques concentrate upon activities which purport to structure and enhance perception.

Research Data

In 1917, Bronner described case studies of children who apparently had poor perceptual-discrimination abilities. Fildes' study of visual discrimination indicated a definite relationship between perceptual abilities and reading (1921). Orton's (1925) studies, probably, were most influential in focusing attention on the contributions that the neurologist and psychiatrist might make in this field. In his 1925 report, he used the "word-blindness" term, and later introduced the "strephosymbolia" (twisted symbols) term at the 1928 American Medical Association meeting. At that time, he hypothesized upon the concept of three levels of perceptual-discrimination: (1) basic visual awareness of objects; (2) auditory and visual memory of objects, with ability to remember their names and identify them by name; (3) visual elaborative level in which association and cognition are most important. "At the third or associative level, however, destruction in one hemisphere (of the brain) may result in complete loss of the associative function, resulting in the inability to read..." (Orton, 1928).

Monroe (1932) was one of the first reading specialists to investigate the causative factors of reading disability and to include inability in the perceptual-discrimination of forms and complex visual patterns as well as directionality.

FOCUS ON SELF-DEVELOPMENT

Focus on Self-Development (Focus) is an audiovisual program for the elementary grades designed for use in the classroom. Its overall objectives are to lead the child toward an understanding of self others, and the environment and its effects. Its purpose is to bring out the child's ideas and feelings and to get him to think about them and act on them. It is not to tell him how to think or what to do. Topics included in the program are feelings, family relationships, problem solving, social relationships and the world of work. Components of Focus include a teacher's guide, Being Me workbook, filmstrips, recordings and photoboards. Provocative but familiar situations are discussed from a number of viewpoints. They are intended to stimulate group discussion or ideas for role playing, drawings, or stories.

Research Data

In the spring of 1969, a field study for Focus on Self-Development was conducted with a sample of 1,087 students in forty-two classes. The study examined how teachers and students felt about using the kinds of materials contained in Focus, what sorts of perceptual and behavioral changes might be expected. This study indicated that a large majority of teachers were enthusiastic about materials and almost all the teachers found Focus an effective program for developing and exploring social and personal growth of children. More than eighty-five percent of the pupils expressed active interest in the tryout materials.

Thirty-five teachers from six schools in various sections of Illinois and a school in Phoenix completed a questionnaire designed to assess the attitudes toward materials and content in Focus. All but two teachers were either enthusiastic about or receptive to the use of the Focus materials in their classrooms. Of the two, one was negative, and the other was neutral (Anderson, 1975).

DEVELOPING UNDERSTANDING FOR SELF AND OTHERS (DUSO)

Developing Understanding for Self and Others was written by Donald Dinkmeyer (1973). The program is designed for children in the kindergarten and primary grades. It is intended for use with children in urban, suburban, and rural communities, advantaged and disadvantaged areas. DUSO is a program of activities with an accompanying kit of materials, designed to help children better understand social-emotional behavior. It is intended for use by the regular classroom teacher.

The total program is organized around eight major themes:
 -- Understanding and Accepting Self

- Understanding Feelings
- Understanding Others
- Understanding Independence
- Understanding Goals and Purposeful Behavior
- Understanding Mastery, Competence and Resourcefulness
- Understanding Choices and Consequences

Materials include a manual, two story books, records and cassettes, posters, puppets, activity cards, role playing cards, group discussion cards, and cassette player.

Research Data

The first field test in the fall of 1968 involved over 1,675 children in sixty-seven classrooms. The results of this field test were used to modify and refine the materials. A later field test in the fall and winter of 1969-70 was used for further refinement. In all, the DUSO program was field tested in one hundred sixty-six classrooms involving over 4,150 children. These classrooms, located in fifteen states, contained children of many economic, racial and ethnic groups. The manuscripts and field test materials were also critiqued by twenty-two elementary school counselors (Dinkmeyer, 1973).

APPENDIX C

The following is The Wide Range Achievement Test which was in use with the learning disabled children. Three separate grade scores were obtained in math, reading and spelling in both a pretest and post-test situation.

WIDE RANGE ACHIEVEMENT TEST

Name Birthdate M. F. Chron. Age

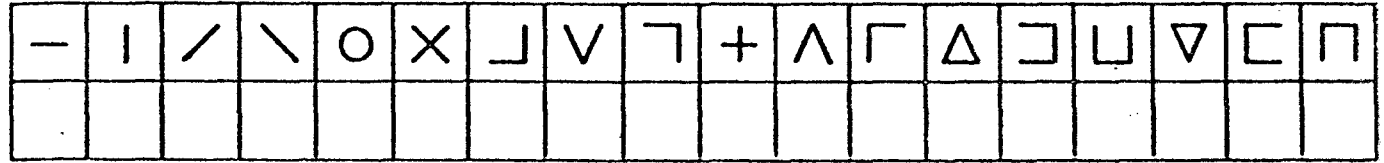
School Grade Reading Score Grade Stand-Sc. %ile.

Referred by Spelling Score Grade Stand-Sc. %ile.

Date Examiner Arithmetic Score Grade Stand-Sc. %ile.

Percentiles and Standard Scores corresponding to grade ratings and age may be found in the Manual.

Level I—Spelling—Grade Norms.										Level II—Spelling—Grade Norms.										Spelling Scores					
Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade	Level I		Level II			
																				Test	Cumul	Test	Cumul		
1	N.5	12	Kg.4	23	1.5	34	3.0	45	5.7	56	10.5	0	Kg.2	11	4.0	21	6.7	31	9.0	41	12.4				
2	N.8	13	Kg.5	24	1.6	35	3.2	46	6.0	57	10.9	1	Kg.6	12	4.3	22	6.8	32	9.3	42	12.8	1 point	1	4-9	1
3	Pk.1	14	Kg.6	25	1.7	36	3.5	47	6.3	58	11.5	2	Gr.1.0	13	4.6	23	7.0	33	9.6	43	13.2	per	to	10-17	2
4	Pk.2	15	Kg.7	26	1.8	37	3.7	48	6.5	59	12.2	3	1.3	14	4.9	24	7.2	34	9.9	44	13.6	mark	18	18	3
5	Pk.3	16	Kg.8	27	2.0	38	3.9	49	6.8	60	13.0	4	1.6	15	5.2	25	7.4	35	10.2	45	14.0	Name		Name	
6	Pk.5	17	Kg.9	28	2.2	39	4.2	50	7.2	61	13.8	5	1.9	16	5.5	26	7.6	36	10.5	46	14.4	1 letter	19	1 letter	4
7	Pk.7	18	Gr.1.0	29	2.3	40	4.5	51	7.7	62	14.5	6	2.2	17	5.8	27	7.8	37	10.8	47	15.0	2 letters	20	2 letters	5
8	Pk.9	19	1.1	30	2.5	41	4.7	52	8.2	63	15.2	7	2.6	18	6.1	28	8.1	38	11.2	48	15.7	Spelling		Spelling	
9	Kg.1	20	1.2	31	2.6	42	5.0	53	8.7	64	15.9	8	3.0	19	6.3	29	8.4	39	11.6	49	16.4	1 point	21	1 point	6
10	Kg.2	21	1.3	32	2.7	43	5.3	54	9.2	65	16.7	9	3.3	20	6.5	30	8.7	40	12.0	50	17.2	per	to	per	to
11	Kg.3	22	1.4	33	2.9	44	5.5	55	9.7	10	3.7					51	18.0	51	18.0	word	65	word	51		



Name _____ 31. _____

1. _____ 16. _____ 32. _____

2. _____ 17. _____ 33. _____

3. _____ 18. _____ 34. _____

4. _____ 19. _____ 35. _____

5. _____ 20. _____ 36. _____

6. _____ 21. _____ 37. _____

7. _____ 22. _____ 38. _____

8. _____ 23. _____ 39. _____

9. _____ 24. _____ 40. _____

10. _____ 25. _____ 41. _____

11. _____ 26. _____ 42. _____

12. _____ 27. _____ 43. _____

13. _____ 28. _____ 44. _____

14. _____ 29. _____ 45. _____

15. _____ 30. _____ 46. _____

3 pennies, spend 1? ; 3 fingers, 8 fingers, 9 or 6? 42 or 28? 9 marbles, lose 3?

Written part.

$1 + 1 = \dots$ 6 5 32 $4 \times 2 = \dots$ 23 29 75
 $4 - 1 = \dots$ $+ 2$ $- 3$ $+ 40$ $\times 3$ $- 18$ $+ 8$

452
 137
 $+ 245$ $6 \div 2 = \dots$ $\$62.04$ $- 5.30$ $1\frac{1}{2}$ hr. = \dots min. $6 \overline{) 968}$
 $\frac{1}{3} + \frac{1}{3} = \dots$

$\frac{15}{5} = \dots$ $\frac{7}{9} - \frac{5}{9} = \dots$ 823 $4\frac{5}{6}$
 $\times 96$ $3\frac{1}{3}$ $\frac{2}{5}$ of 35 = \dots
 $+ 2\frac{1}{2}$
 $\frac{1}{2}$ yd. = \dots in. $1\frac{3}{4} = \frac{\dots}{4}$

$27 \overline{) 384}$ $\frac{3}{4}$ yr. = \dots mo. Multiply: 7.96
 5 30.8
 $\frac{2}{3} = \frac{\dots}{12}$ $- 1\frac{1}{3}$ $2\frac{1}{3}$ doz. = \dots

Which is more? Find the average of Write as a percent
 $\frac{7}{8}$ or $\frac{13}{15}$ Ans. \dots 24, 18, 21, 26, 17 $4\frac{1}{5} \times 3\frac{1}{3} = \dots$
Ans. \dots $\frac{3}{4} = \dots\%$

$\frac{3}{10} \div \frac{3}{4} = \dots$ $\frac{8}{9} \times \frac{9}{4} \times \frac{1}{2} = \dots$ Write as decimal:
 $\frac{2}{5} = \dots$ 20% of 120 = \dots

$8.2 \overline{) 62.703}$ Change to familiar numerals: $(-5)(+9) = \dots$
 $6^2 = \dots$ MCXLII = \dots

Find interest on Solve: Find square root: $\sqrt{334.89}$
\$300 at $4\frac{1}{2}\%$ for 7 mo. $y + (9 - 8y) = 65$
Ans. \dots $y = \dots$

Percentiles and Standard Scores corresponding to grade ratings and age may be found in the Manual.

Arithmetic—Level I—Grade Norms.

Score Grade	Score Grade	Score Grade	Score Grade	Score Grade	Score Grade	Score Grade	Score Grade	Score Grade	Score Grade							
N.5	8	Kg.1	15	Kg.9	22	2.1	29	3.6	36	3.3	43	6.7	50	10.0	37	14.9
N.8	9	Kg.4	16	Gr.1.0	23	2.2	30	3.9	37	3.5	44	7.0	51	10.7	38	15.6
Pk.1	10	Kg.3	17	1.2	24	2.3	31	4.2	38	3.7	45	7.2	52	11.4	39	16.3
Pk.2	11	Kg.4	18	1.4	25	2.6	32	4.5	39	3.9	46	7.6	53	12.1		
Pk.4	12	Kg.5	19	1.6	26	2.8	33	4.7	40	4.1	47	8.2	54	12.8		
Pl.6	13	Kg.6	20	1.8	27	3.0	34	5.0	41	4.3	48	8.8	55	13.5		

Written part.

$\begin{array}{r} 43 \\ + 6 \\ \hline \end{array}$	$\begin{array}{r} 94 \\ - 64 \\ \hline \end{array}$	$\begin{array}{r} \$4.95 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 726 \\ - 349 \\ \hline \end{array}$	$2\frac{1}{2} + 1\frac{1}{2} = \underline{\hspace{2cm}}$	$\begin{array}{r} 229 \\ 5048 \\ 63 \\ + 1381 \\ \hline \end{array}$
--	---	---	---	--	--

17

$9 \overline{) 4527}$	$1\frac{1}{3} \text{ ft.} = \underline{\hspace{2cm}} \text{ in.}$	Add: $\begin{array}{r} 6\frac{1}{4} \\ 1\frac{5}{8} \\ 4\frac{1}{2} \\ \hline \end{array}$	$\begin{array}{r} 809 \\ \times 47 \\ \hline \end{array}$	Write as percent: $.42 = \underline{\hspace{2cm}}\%$
	$2 - \underline{\hspace{2cm}} = \frac{1}{4}$			

23

Subtract: $\begin{array}{r} 10\frac{1}{4} \\ - 7\frac{2}{3} \\ \hline \end{array}$	Multiply: $\begin{array}{r} 6.23 \\ \times 12.7 \\ \hline \end{array}$	Find average: 34, 16, 45, 39, 27 Ans. $\underline{\hspace{2cm}}$	Write as decimal: $52\frac{1}{2}\% = \underline{\hspace{2cm}}$	Write as percent: $\frac{3}{8} = \underline{\hspace{2cm}}\%$	$2.9 \overline{) 308.85}$
---	--	--	---	---	---------------------------

29

Add: $\begin{array}{r} 3 \text{ ft. } 6 \text{ in.} \\ 5 \text{ ft. } 5 \text{ in.} \\ 8 \text{ ft. } 11 \text{ in.} \\ \hline \end{array}$	$M + 2 = 5$ $M = \underline{\hspace{2cm}}$ $2x = 3$ $x = \underline{\hspace{2cm}}$	$6 \times 3\frac{7}{8} = \underline{\hspace{2cm}}$ $15\% \text{ of } 175 = \underline{\hspace{2cm}}$	Write as common fraction in lowest terms: $.075 = \underline{\hspace{2cm}}$ The complement of an angle of $30^\circ = \underline{\hspace{2cm}}$
---	---	---	--

36

$4^3 = \underline{\hspace{2cm}}$	If $a = 7, b = 3,$	$\frac{1}{4}\% \text{ of } 60 = \underline{\hspace{2cm}}$	Solve: $\frac{7 - (6 + 8)}{2} = \underline{\hspace{2cm}}$	Add: $\begin{array}{r} -x - y - 23 \\ x - y + 22 \\ \hline \end{array}$
$15 \div 1\frac{1}{5} = \underline{\hspace{2cm}}$	$a^2 + 3b = \underline{\hspace{2cm}}$	$66 \text{ sq. ft.} = \underline{\hspace{2cm}} \text{ sq. yd.}$		

43

Factor: $r^2 + 25 - 10r$	$\frac{r^2 - 5r - 6}{r + 1}$	Change to familiar numerals: MDCXC I = $\underline{\hspace{2cm}}$	$3p - q = 10$ $2p - q = 7$ $p = \underline{\hspace{2cm}}$ $q = \underline{\hspace{2cm}}$	$\sqrt{2ax} = 6$ $x = \underline{\hspace{2cm}}$ $\frac{7}{17} = \frac{6}{x}$ $x = \underline{\hspace{2cm}}$
Ans. $\underline{\hspace{2cm}}$	Ans. $\underline{\hspace{2cm}}$	Find interest on \$1,200 at 6% for 70 days. Ans. $\underline{\hspace{2cm}}$		

51

Find square root: $\sqrt{67081}$	$\log_{10} \left(\frac{1}{100}\right)$	$\log_5 5\sqrt{5}$	Reduce: $\frac{k^2 + k}{k^2} \cdot \frac{3k - 3}{k^2 - 1}$	Find root: $2x^2 - 36x = 162$
Ans. $\underline{\hspace{2cm}}$	Ans. $\underline{\hspace{2cm}}$	Ans. $\underline{\hspace{2cm}}$	Ans. $\underline{\hspace{2cm}}$	Ans. $\underline{\hspace{2cm}}$

56

Percentiles and Standard Scores corresponding to grade ratings and age may be found in the Manual.

Arithmetic—Level II—Grade Norms.

Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	
N.9	7	Kg.8	16	3.9	21	0.3	28	8.3	35	12.3	42	15.9
Pk.4	8	Gr.1.0	15	4.4	22	0.7	29	9.0	36	12.8	43	16.5
Pk.5	9	1.5	16	4.9	23	0.9	30	9.5	37	13.3	44	17.1
Pk.9	10	1.9	17	5.3	24	7.1	31	10.1	38	13.8	45	17.7
Kg.4	11	2.3	18	5.7	25	7.6	32	10.8	39	14.4	46	18.3
Kg.8	12	2.9	19	6.1	26	7.7	33	11.3	40	14.9	47	18.9
Kg.9	13	3.1	20	6.3	27	8.0	34	11.8	41	15.4	48	19.5

Percentiles and Standard Scores corresponding to grade ratings and age may be found in the Manual.

Level I—Reading—Grade Norms.

Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade
1	N.5	16-17	Kg.6	38-37	1.9	53	3.3	69	5.3
2	N.9	18	Kg.7	38	2.0	54	3.5	67	5.5
3	Pk.1	19-20	Kg.8	39-40	2.1	55	3.6	68	5.7
4	Pk.2	21	Kg.9	41	2.2	56	3.8	69	5.9
5	Pk.3	22	Gr.1.0	42-43	2.3	57	3.9	70	6.1
6	Pk.5	23	1.1	44	2.4	58	4.1	71	6.3
7	Pk.7	24-25	1.2	45-46	2.5	59	4.2	72	6.5
8	Pk.9	26-27	1.3	47	2.6	60	4.4	73	6.7
9	Kg.1	28-29	1.4	48	2.7	61	4.5	74	6.8
10-11	Kg.2	30-31	1.5	49	2.8	62	4.7	75	7.0
12	Kg.3	32-33	1.6	50	2.9	63	4.8	76	7.2
13-14	Kg.4	34	1.7	51	3.0	64	5.0	77	7.5
15	Kg.5	35	1.8	52	3.1	65	5.1	78	7.8

Level II—Reading—Grade Norms

Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade
0	Pk.5	10	1.3	29	4.4	42	6.8	55	9.5
1	Pk.8	17	1.5	30	4.6	43	6.9	56	9.8
2	Kg.1	18	1.7	31	4.8	44	7.1	57	9.9
3-4	Kg.2	19	1.8	32	5.0	45	7.3	58	10.2
5-6	Kg.3	20	2.0	33	5.2	46	7.5	59	10.5
7	Kg.4	21	2.2	34	5.4	47	7.7	60	10.8
8	Kg.5	22	2.4	35	5.6	48	7.9	61	11.3
9	Kg.6	23	2.6	36	5.8	49	8.1	62	11.6
10-11	Kg.7	24	2.8	37	6.0	50	8.3	63	11.9
12	Kg.8	25	3.2	38	6.2	51	8.5	64	12.2
13	Kg.9	26	3.5	39	6.5	52	8.7	65	12.4
14	Gr.1.0	27	3.9	40	6.5	53	8.9	66	12.6
15	1.1	28	4.2	41	6.6	54	9.1	67	12.8

LEVEL 2

Two letters in name (2) A B O S E R T H P I U Z Q (13) 15

milk	city	in	tree	animal	himself	between	chin	split	form	25
grunt	stretch	theory	contagious	grieve	toughen	aboard	triumph			33
contemporary	escape	eliminate	tranquillity	conspiracy	image	ethics				40
deny	rancid	humiliate	bibliography	unanimous	predatory	alcove				47
scald	mosaic	municipal	decisive	contemptuous	deteriorate	stratagem				54
benign	desolate	protuberance	prevalence	regime	irascible	peculiarity				61
pugilist	enigmatic	predilection	covetousness	soliloquize	longevity	abysmal				68
ingratiating	oligarchy	coercion	vehemence	sepulcher	emaciated	evanescence				75
centrifugal	subtlety	beatify	succinct	regicidal	schism	ebullience				82
misogyny	beneficent	desuetude	egregious	heinous	internecine	synecdoche				89

LEVEL 3

cat	see	red	to	big	work	book	eat	was	him	how	36
then	open	letter	jar	deep	even	spell	awake	block	size		46
weather	should	lip	finger	tray	felt	stalk	cliff	lame	struck		56
approve	plot	huge	quality	sour	imply	humidity	urge				64
bulk	exhaust	abuse	collapse	glutton	clarify						70
recession	threshold	horizon	residence	participate	quarantine						76
luxurious	rescinded	emphasis	aeronautic	intrigue	repugnant						82
putative	endeavor	heresy	discretionary	persevere	anomaly						88
rudimentary	miscreant	usurp	novice	audacious	mitosis						94
seismograph	spurious	idiosyncrasy	itinerary	pseudonym	aborigines						100

A R Z H I Q S E B O 10

Two letters in name (2) A B O S E R T H P I U Z Q

APPENDIX D

The following is a copy of The Piers-Harris Children's Self-Concept Scale. The scale was given verbally to the Learning disabled children in both the control and experimental groups.

THE PIERS - HARRIS
CHILDREN'S SELF CONCEPT SCALE

(The Way I Feel About Myself)

by

ELLEN V. PIERS, Ph.D.

and

DALE B. HARRIS, Ph.D.

Published by

Counselor Recordings and Tests

BOX 6184 ACKLEN STATION

NASHVILLE, TENNESSEE 372

... are a set of statements. Some of them are true of you and so you will circle the yes. Some are not true of you and so you will circle the no. Answer *every* question even if some are hard to decide, but do *not* circle both *yes* and *no*. Remember, circle the yes if the statement is generally like you, or circle the no if the statement is generally not like you. There are no right or wrong answers. Only you can tell us how you feel about yourself, so we hope you will mark the way you really feel inside.

1. My classmates make fun of me.....yes no
2. I am a happy person.....yes no
3. It is hard for me to make friends.....yes no
4. I am often sad.....yes no
5. I am smart.....yes no
6. I am shy.....yes no
7. I get nervous when the teacher calls on meyes no
8. My looks bother meyes no
9. When I grow up, I will be an important personyes no
10. I get worried when we have tests in school.....yes no
11. I am unpopular.....yes no
12. I am well behaved in school.....yes no
13. It is usually my fault when something goes wrongyes no
14. I cause trouble to my family.....yes no
15. I am strongyes no
16. I have good ideasyes no
17. I am an important member of my familyyes no
18. I usually want my own way.....yes no
19. I am good at making things with my handsyes no
20. I give up easily.....yes no

21. I am good in my school work yes no
22. I do many bad things yes no
23. I can draw well yes no
24. I am good in music yes no
25. I behave badly at home yes no
26. I am slow in finishing my school work yes no
27. I am an important member of my class yes no
28. I am nervous yes no
29. I have pretty eyes yes no
30. I can give a good report in front of the class yes no
31. In school I am a dreamer yes no
32. I pick on my brother(s) and sister(s) yes no
33. My friends like my ideas yes no
34. I often get into trouble yes no
35. I am obedient at home yes no
36. I am lucky yes no
37. I worry a lot yes no
38. My parents expect too much of me yes no
39. I like being the way I am yes no
40. I feel left out of things yes no

41. I have nice hair.....yes no
42. I often volunteer in schoolyes no
43. I wish I were differentyes no
44. I sleep well at night.....yes no
45. I hate school.....yes no
46. I am among the last to be chosen for games.....yes no
47. I am sick a lotyes no
48. I am often mean to other people.....yes no
49. My classmates in school think I have good ideasyes no
50. I am unhappyyes no
51. I have many friendsyes no
52. I am cheerfulyes no
53. I am dumb about most thingsyes no
54. I am good lookingyes no
55. I have lots of pep.....yes no
56. I get into a lot of fights.....yes no
57. I am popular with boys.....yes no
58. People pick on meyes no
59. My family is disappointed in me.....yes no
60. I have a pleasant faceyes no

61. When I try to make something, everything seems to go wrong. yes no
62. I am picked on at home yes no
63. I am a leader in games and sports yes no
64. I am clumsy. yes no
65. In games and sports, I watch instead of play yes no
66. I forget what I learn. yes no
67. I am easy to get along with. yes no
68. I lose my temper easily yes no
69. I am popular with girls yes no
70. I am a good reader yes no
71. I would rather work alone than with a group yes no
72. I like my brother (sister) yes no
73. I have a good figure yes no
74. I am often afraid. yes no
75. I am always dropping or breaking things yes no
76. I can be trusted yes no
77. I am different from other people. yes no
78. I think bad thoughts yes no
79. I cry easily. yes no
80. I am a good person. yes no

APPENDIX E

The following is The Attitude Toward Handicapped Individuals Scale (ATHI). This instrument was completed by the teachers participating in the study in order to measure their attitude change.

ATHI SCALE

by

Al Lazar

Mark each statement in the left margin according to how much you agree or disagree with it. Please mark every one. Write +1, +2, +3; or -1, -2, -3; depending on how you feel in each case.

+ 3: I AGREE VERY MUCH

+ 2: I AGREE PRETTY MUCH

+ 1: I AGREE A LITTLE

- 1: I DISAGREE A LITTLE

- 2: I DISAGREE PRETTY MUCH

- 3: I DISAGREE VERY MUCH

-
1. Parents of handicapped children should be less strict than other parents.
 2. Handicapped persons are just as intelligent as non-handicapped ones.
 3. Handicapped people are usually easier to get along with than other people.
 4. Most handicapped people feel sorry for themselves.
 5. Handicapped people are the same as anyone else.
 6. There shouldn't be special schools for handicapped children.
 7. It would be best for handicapped persons to live and work in special communities.
 8. It is up to the government to take care of handicapped persons.
 9. Most handicapped people worry a great deal.
 10. Handicapped people should not be expected to meet the same standards as non-handicapped.
 11. Handicapped people are as happy as non-handicapped ones.
 12. Severely handicapped people are no harder to get along with than those with minor handicaps.
 13. It is almost impossible for a handicapped person to lead a normal life.
 14. You should not expect too much from handicapped people.
 15. Handicapped people tend to keep to themselves much of the time.
 16. Handicapped people are more easily upset than non-handicapped people.
 17. Handicapped persons cannot have a normal social life.
 18. Most handicapped people feel that they are not as good as other people.
 19. You have to be careful of what you say when you are with handicapped people.
 20. Handicapped people are often grouchy.

APPENDIX F

The following are rating sheets completed by the adjustment teacher at Gompers school as to the topics covered during the particular inservice of the day.

Rating Sheet

Date: 10/11/78
Title: Characteristics of Children with Special Needs.
(A workshop from Special Media and Information Service)

Topics covered during the
inservice session.

Viewing of an audio-filmstrip about
the special needs students in their
classrooms.
Brainstorming session

yes
11

Pauline Hedrow
Rater

Rating Sheet

Date: 10/25/78
Title: Learning Disabilities.
(a workshop from Special Media and Information Service)

Topics covered during the
inservice session

Viewing of an audio-visual filmstrip
describing the learning and behavioral
characteristics of children with
learning disabilities

yes

Pauline Hedrows
Rater

Rating Sheet

Date: 11/8/78
Title: "Organizing Your Classroom to Provide for Special Needs Students." (A workshop from Special Media and Information service)

Topics covered during
the inservice session

An audio-visual filmstrip
was shown

Yes.

Pauline Hedrows
Rater

Rating Sheet

Date: 11/22/78

Title: A film: "Early Recognition of Learning Disabilities"

Film Shown

eyesPauline Kedron
Rater

Rating Sheet

Date: 12/7/78
Title: Motivating the Child

Topics covered during
inservice sessions

Needs Theory
Maslow's Hierarchy of Needs
Competition
Affiliative Motivation
Anxiety Motivation

yes
"
"
"
"

Handout of lecture given to
all participating in the
Inservice program

"

Pauline Hedrow
Rater

Rating Sheet

Date: 12/21/78
 Title: Theories of Learning

Topics covered during
inservice sessions

Behavioral Learning Theory

- .Learning Processes
- Teaching Machines
- Suggestions for Applying Operant
Conditioning in the Classroom

yes

Cognitive-Developmental Learning Theory

- Techniques to Encourage Discovery
Learning

Social Learning Theory

- Observational Learning

Handout of lecture given to all participating
in the inservice program.

Pauline Kellrow

 Rater

Rating Sheet

Date: 1/4/79

Title: A film: "You're Not Listening"

Film Shown

YesPauline Kirkson
Rater

Rating Sheet

Date: 1/25/79

Title: Remediation of the Perceptual Learning Areas -- Auditory
Modality.Topics covered during inservice
sessions

Audity Vocal
 Auditory Reception
 Auditory Discrimination
 Auditory Sequential Memory
 Auditory Association
 Sound Blending
 Emotional Disorders
 Verbal Expression

Yes
 "
 "
 "
 "
 "
 "
 "
 "

Handout of lecture given to all
 participating in the inservice.

Pauline Hedrow
 Rater

Rating Sheet

Date: 2/1/79

Title: A film: "Learning Disability"

Film Shown

yes

Pauline Keaton
Rater

Rating Sheet

Date: 2/15/79
 Title: Remediation of the Perceptual Learning Areas -- Visual
 Modality

Topics covered during inservice
sessions

Visual-Motor
 Visual Reception
 Visual Discrimination
 Visual Closure
 Spatial Relationship
 Visual Sequential Memory
 Visual Motor Association

eps

Handout of lecture given to all
 participating in the inservice.

Pauline Hedrow

 Rater

Rating Sheet

Date: 3/1/79

Title: Remediating Learning Disabilities in Specific Subject
Areas (Reading and Spelling)Topics covered during
inservice sessionSpecific Reading Problems
Spelling SkillsYes

Material Demonstration:

Palo Alto Reading Program

"

Programmed Reading

"

Language Experience Approach

"

Distar

"
_____Handout of lecture given to
all participating in
Inservice Program"
_____Pauline Hedrow
Rater

Rating Sheet

Date: 3/8/79

Title: Remediating Learning Disabilities in Specific Subject
Areas: (Math, Handwriting, Written Language problems)Topics covered during
inservice sessionWritten Language Problems
Written Expression
Arithmetic Problems

eps
"
"

Handout of lecture given to all
participating in the inservice

"

Paula Keedron
Rater

Rating Sheet

Date: 3/15/79
Title: Self-Concept

Topics covered during
inservice session

School and Achievement Studies
Self-Fulfilling Prophecy and Self-
Attitudes

Changing Self-Attitudes
What Teachers Can Do

yes
"
"
"

Handout of lecture given to all
participating in the inservice
program.

"

Pauline Kiedrow
Rater

Rating Sheet

Date: 3/22/79
 Title: Humanistic Education

Topics covered during
 inservice session

Methodologies	<u>yes</u>
Processing	<u>"</u>
Upgrade Behavior	<u>"</u>
Role Playing	<u>"</u>
Discussion Methods	<u>"</u>
Acceptance	<u>"</u>
Needs	<u>"</u>
Self-Concept	<u>"</u>
Risk-Taking	<u>"</u>
Change	<u>"</u>
Anger	<u>"</u>
Joy	<u>"</u>
Handout given to all participating in the inservice program	<u>"</u>

Pauline Kiedrow
 Rater

Rating Sheet

Date: 3/29/79

Title: A film: "The Reluctant Delinquent"

Film Shown

yesPauline Keaton
Rater

Rating Sheet

Date: 4/5/79
Title: Behavior Modification

Topics covered during
inservice session

Token Economy
School Token Use

eyes
"

Handout of lecture given to all
participating in the inservice.

"

Pauline Keesrow
Rater

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APPROVAL SHEET

The dissertation submitted by Therese Elizabeth Finn has been read and approved by three members of the Department of Education.

The final copies have been examined by the Director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval with reference to content, form, and mechanical accuracy.

The dissertation is, therefore, accepted in partial fulfillment of the requirements for the Degree of Doctor of Education.

October 16, 1979

Date

Joy Rogers

Signature of Advisor